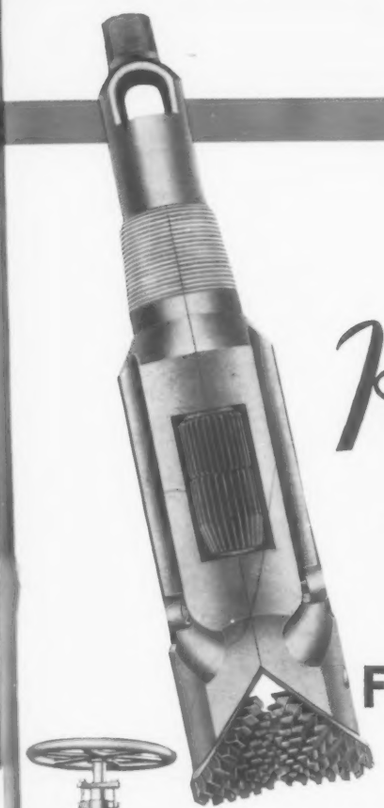
15 CENTS A COPY

THE OIL WEEKLY

Devoted Exclusively To The Production and Transportation of Oil and Gas

Engineering News Statistics



USE

Hughes Tools

FOR ECONOMY

HUGHES ROCK BITS
HUGHES ROCK BIT CONES
HUGHES CORE BITS
HUGHES TOOL JOINTS
HUGHES DRILLING VALVES
AND FITTINGS

HUGHES TOOL COMPANY

Service Plants
Los Angeles, Calif.
Oklahoma City, Okla.
Midland, Texas

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HOUSTON, TEXAS

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Woolworth Bldg.,
New York City

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December 12, 1930

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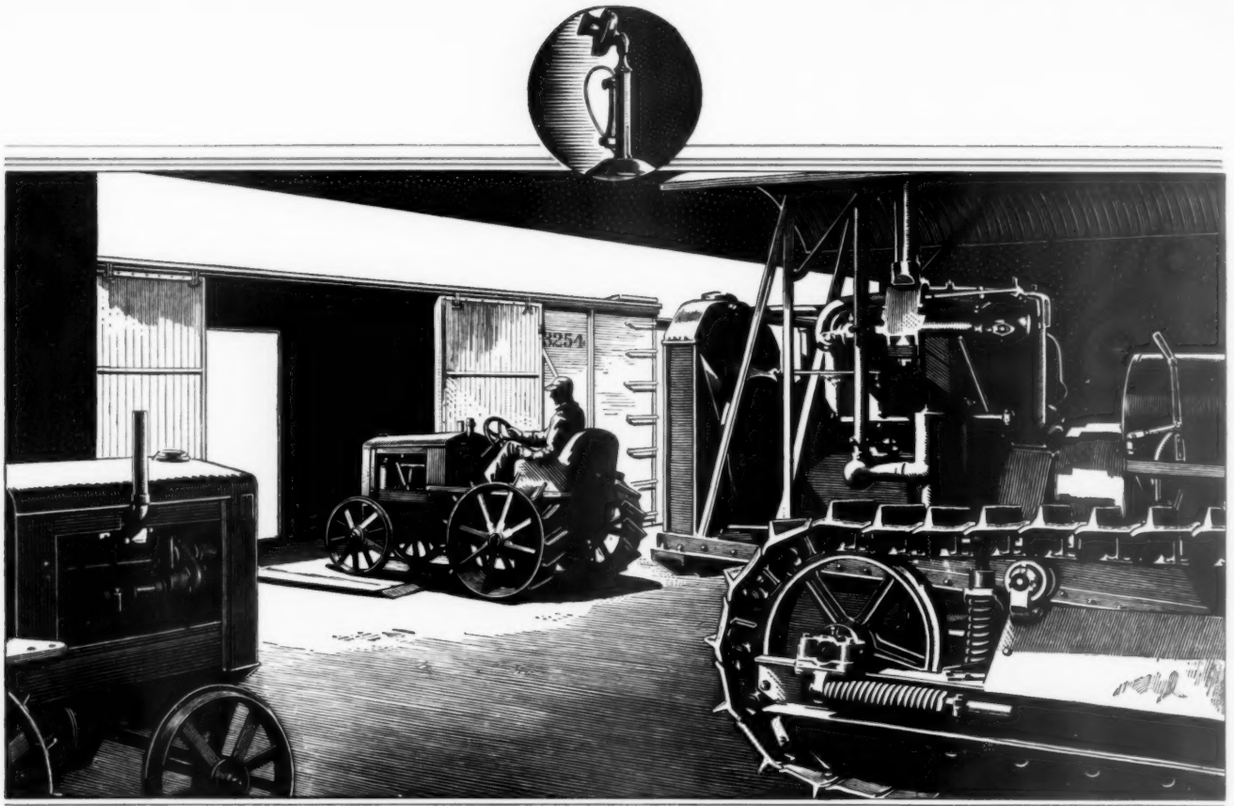


Business was Quiet...but the Telephone brought $22,200 in New Orders

A TRACTOR company's sales had fallen off to a marked degree. A telephone sales program to distant customers was decided upon. One result was $18,400 worth of business. Another, a $3800 order after the purchaser had refused a personal interview.

An Eastern lumber company regularly "visits" lumber yards in five states by telephone. In one month 550 carloads of lumber totaling nearly $500,000 were sold by this modern method. Toll bills averaged less than one-half of one per cent.

Business firms, large and small, are using out-of-town telephone service more than ever to increase sales . . . reduce distribution costs . . . meet competition. New markets are developed at little expense. Customers and prospects are economically contacted between salesmen's visits.

Develop your business by telephone. Best results are obtained by having a definite plan for executives and salesmen to follow. Your local Bell Telephone Business Office will gladly submit a plan to meet your needs.

Inter-city calls are cheap, definite, resultful. Typical station-to-station day rates: Pittsburgh to Indianapolis, $1.50. Boston to Atlanta, $3.50. New York to Baltimore, 90c. Philadelphia to Seattle, $8.50. Bell Telephone service is *Quick . . . Convenient . . . Universal*

BELL SYSTEM
AMERICAN TELEPHONE & TELEGRAPH CO.
AND ASSOCIATED COMPANIES

Timken Roller Pinion Bearing

Flood Lubrication to All Moving Parts

Cast Steel Solid Herringbone Gears

GASO Fig. 710 PUMP

Gives Large Capacities at High Pressures » » »

This pump has one fluid end with interchangeable liners from 2½" to 5" and another with liners from 5" to 7" — giving capacities varying from 1296 bbls. per day at 1400 lbs. working pressure to 12,000 bbls. daily at 300 lbs. pressure.

Shown above is a Gaso Fig. 710 Pump, mounted on steel skids, with V-rope drive from a Buda 90 H. P. Gas or Gasoline Engine, used by the Gulf Pipe Line Co. at Hobbs, N. M. Can also be arranged for V-rope drive from electric motor; with pulley for belt drive; direct driven through flexible coupling from gas or gasoline, or light Diesel, engine; motor driven through silent chain or reduction gears.

Send your requirements for data on Gaso Pumps to meet your needs.

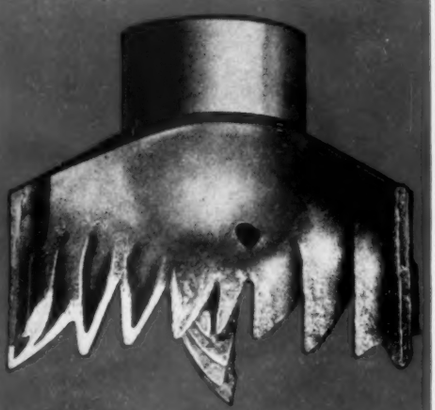
GASO PUMP & BURNER MFG. CO., » » Tulsa, Okla.
Dallas, Texas New York, N. Y.

GASO PUMPS

for every oil industry need

The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 3301 Buffalo Drive, Houston, Texas. Subscription price $1.00 per year; 15 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879

Left picture shows BAASH - ROSS Rake Tooth Bit going into action for the Elwood Exploration Co. at the Elwood Field. Right, shows bit after 16 hour drilling period through hard shale. It went in sharp and came out sharper! Records showed 20% longer drilling life than average.



Note in two pictures spiral placing of teeth which assures that each tooth cuts formation at point not cut by preceding tooth. Circulation holes allow positive washing of teeth at all angles.

SHARP WHEN IT GOES IN » » *SHARPER* WHEN IT COMES OUT and 20% more drilling life — *the New*

BAASH-ROSS RAKE TOOTH BIT

A SUPER-CUTTER of unquestioned superiority over scraper types. Patented feature consists of hollow-back teeth which automatically sharpen as they wear. A sharp cutting edge is always in contact with the formation regardless of conditions.

Maintaining a constant cutting edge results in manifold economies to the driller employing the Baash-Ross Rake Tooth Bit. Less power is required. Strain on drill pipe is minimized. Fewer twist-offs and consequent fishing jobs. A straighter hole naturally follows, and in actual use, this bit has established records of 20% longer drilling life. In every way you cut overhead and drilling expense with this new tool.

Write for detailed information of the Baash-Ross Rake Tooth Bit. The coupon will bring you Bulletin No. 83.

J&L PIPE B-R

BAASH-ROSS TOOL COMPANY
Box 1297 Arcade Station, Los Angeles, California

Please send me... no charge or obligation, Bulletin 83 describing the Baash-Ross Rake Tooth Bit.

*Name*_____

*Company*_____

*Address*_____

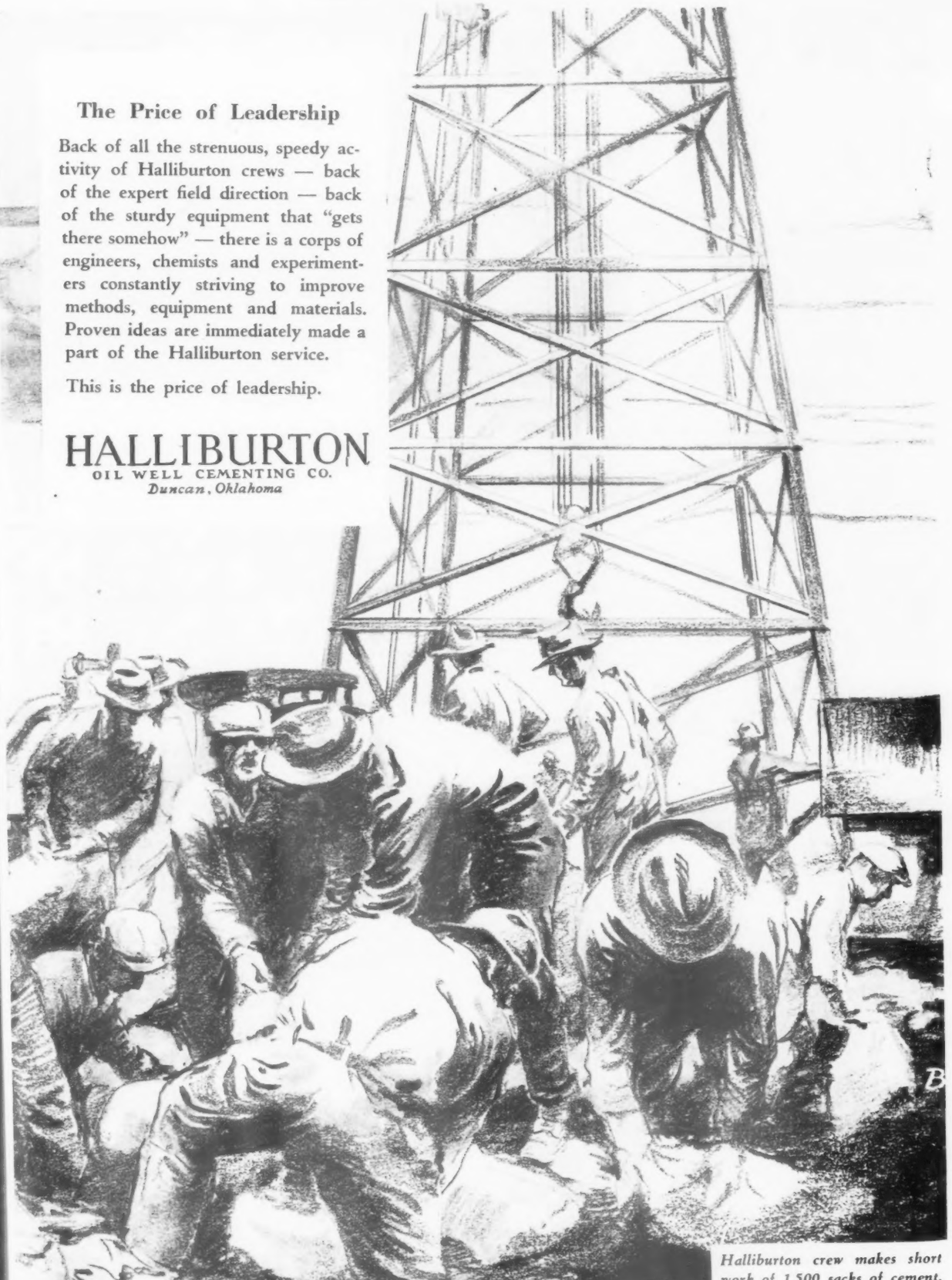
BAASH-ROSS TOOL COMPANY
5512 BOYLE AVENUE . . . LOS ANGELES, CALIF.
Export Department . . New York . . 30 Church Street
District Offices . . Houston, Texas . . 1816 Nance Street
Oklahoma City . . . 1559 East G Street, Capitol Hill
24-hour field shop and supply service at . . . LONG BEACH . . . BREA
VENTURA . . . . . TAFT . . . . . OKLAHOMA CITY

The Price of Leadership

Back of all the strenuous, speedy activity of Halliburton crews — back of the expert field direction — back of the sturdy equipment that "gets there somehow" — there is a corps of engineers, chemists and experimenters constantly striving to improve methods, equipment and materials. Proven ideas are immediately made a part of the Halliburton service.

This is the price of leadership.

HALLIBURTON
OIL WELL CEMENTING CO.
Duncan, Oklahoma



Halliburton crew makes short work of 1,500 sacks of cement.

Would you, as a reader of The Oil Weekly, like to receive copies of THE CEMENTER as issued? Each number contains interesting information about cementing and drilling fluids. There is no cost or obligation—simply sign your name below and mail to Halliburton Oil Well Cementing Co., Duncan, Oklahoma.

Name ..... Address .....

THEY PACK A PUNCH

SPANG LONG-STROKE JARS

SPANG
The Higher CABLE TOOLS Standard
SPANG SPANG SPANG

Jars that make excellent joints—jars that last longer—jars drop-forged *without welds* from a single piece of alloy steel, specially heat-treated and tempered—SPANG Long-Stroke Weldless Jars—stocked by over 300 leading supply stores!

SPANG & COMPANY
BUTLER, PA.

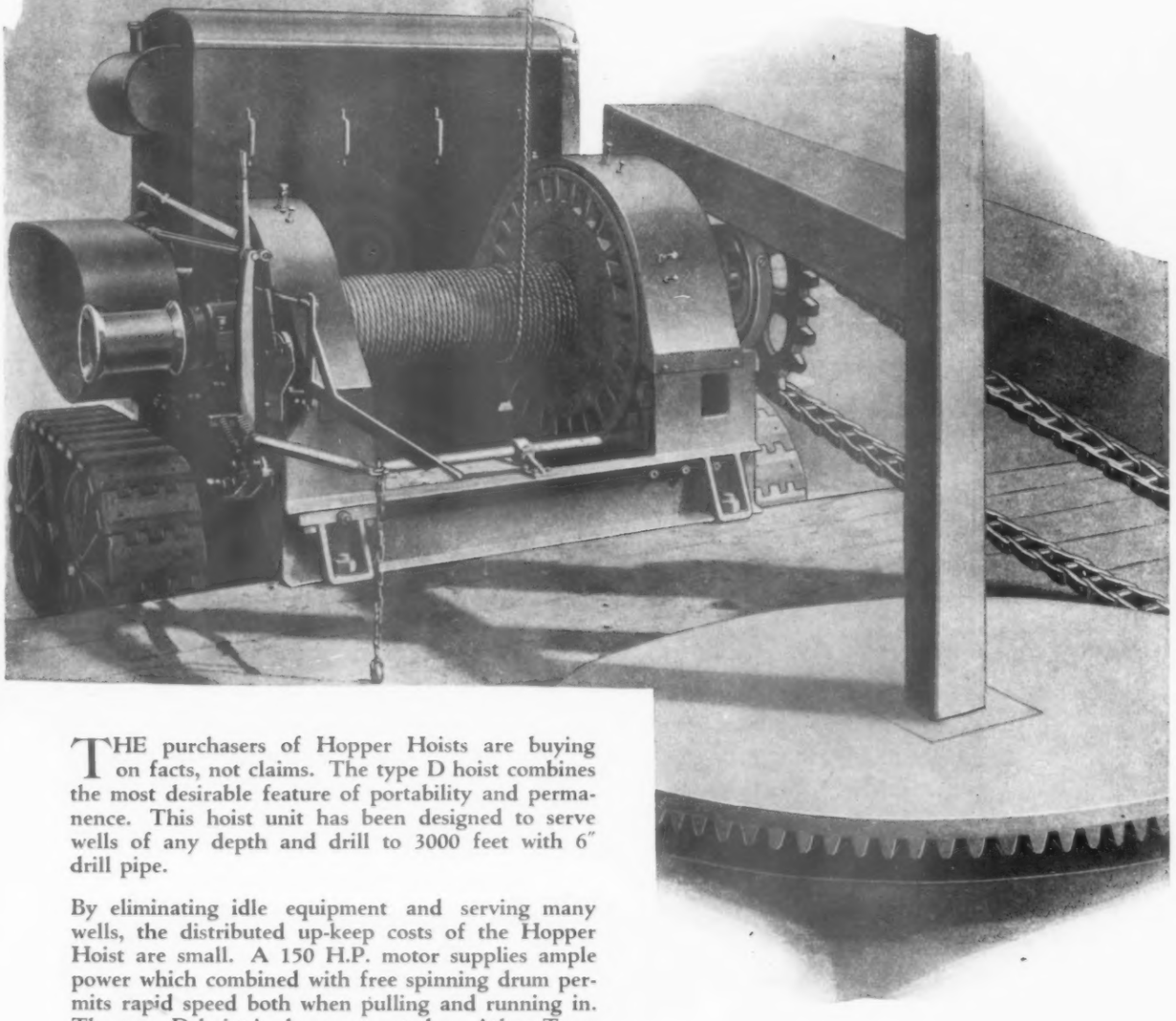
SPANG

◆ WELDLESS JARS ◆

HOPPER

PORTABLE PULLING MACHINE

An economical hook-up for portable pulling power . . . . . .



THE purchasers of Hopper Hoists are buying on facts, not claims. The type D hoist combines the most desirable feature of portability and permanence. This hoist unit has been designed to serve wells of any depth and drill to 3000 feet with 6″ drill pipe.

By eliminating idle equipment and serving many wells, the distributed up-keep costs of the Hopper Hoist are small. A 150 H.P. motor supplies ample power which combined with free spinning drum permits rapid speed both when pulling and running in. The type D hoist is shown mounted on Athey Truss Wheels or it may be purchased with either electric or gas motor on a steel frame for mounting on any five ton truck bed.

The Hopper Type heavy duty oilwell hoist used for drilling to 3000 feet is made in twelve different sizes, one of which will exactly fit your requirements.

HOPPER MACHINE WORKS, Inc.
BAKERSFIELD - - - - - CALIFORNIA

Cable Code: "HOPPER"

Sturdier Smoother DRIVE

The Standardized Bearing of the Oil Industry

NO WEIGHT TOO GREAT
AMERICAN
HEAVY DUTY TYPE "C"

The remarkable progress made in heavy duty construction has been notably affected by the use of heavier duty roller bearings. The answer manufacturers are giving to the problems connected with deeper drilling, greater loads, higher safety factors, smoother operating qualities, sturdier types of construction have been characterized quite generally by the employment of American Bearings as a basic means of improvement.

Oil Well Supply Company furnishes the most recent illustration of this tendency by *standardizing* on American Bearings for their well known and popular 20-inch Imperial Rotary.

Cheaper bearings might do, but American Heavy Duty Bearings are certain to do, all the jobs this outfit encounters without in any way taxing the bearings. This Imperial drive is particularly assured long life by the ample strength represented in its *standardized heavy duty roller bearings of the oil industry*.

AMERICAN ROLLER BEARING CO.
PITTSBURGH, PENNA.

AMERICAN HEAVY DUTY ROLLER BEARINGS

1 TITANIZED BIT *Equals* 10

bits with ordinary dressing in hole-making performance!

HERE'S a proof-clinching test of TITAN supremacy.... a prominent operator (name on request) recently drilled two holes of similar depth and in like formations. In one he used a TITANIZED fishtail bit. In the other he used bits of exactly the same size and type, but dressed with other materials.

The single TITANIZED bit *actually produced as much hole as all TEN of the other BITS COMBINED!* .... and the hole drilled with the TITANIZED bit cost $680 LESS IN LABOR ALONE—exclusive of savings in fuel, water, bits, bit dressings, wear and tear on equipment, etc.

Can you beat it?

Write for catalog and records of other equally remarkable TITAN performances.

MILLS ALLOYS, INC.

3202 So. San Pedro Street

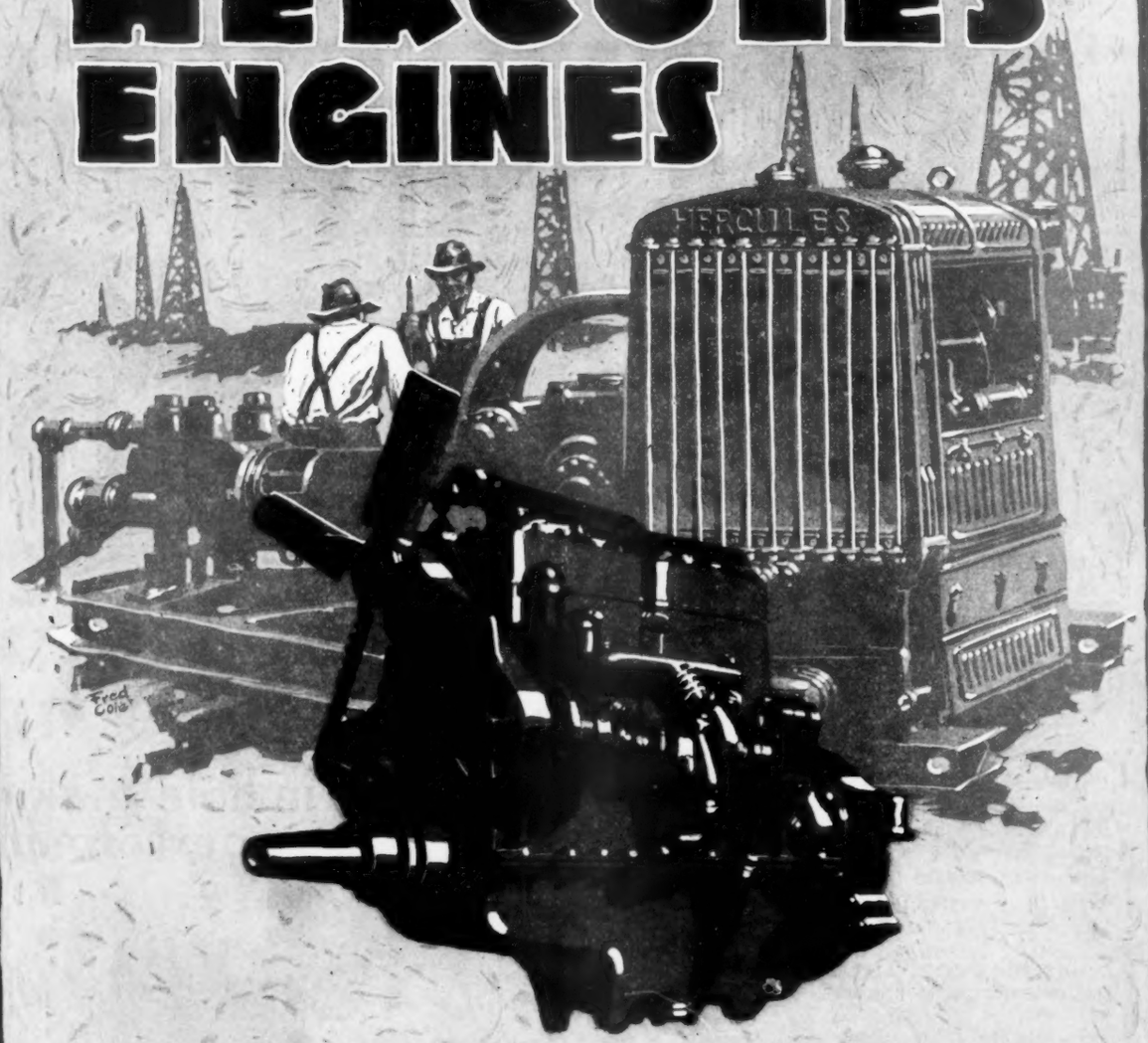
Los Angeles, California, U.S.A.

TITAN and Tube Titan METAL

Titan Metal is supplied in graded sizes for inserts, and Tube Titan Metal in granular form, to meet every requirement of drilling service.

The manufacture of Titan Metal is fully covered by patents. Infringements will be prosecuted.

HERCULES ENGINES



Hercules Engines in the oil fields power water pumps and slush pumps, cable and rotary drilling rigs, compressors, arc welders and winches. Leading manufacturers of oil-producing equipment have standardized on Hercules Power. Producers in ever increasing number rely on Hercules Engines and Power Units. Everywhere Hercules Power is recognized as supreme in the heavy-duty field.

HERCULES MOTORS CORPORATION, CANTON, OHIO, U. S. A.

New York Office: Chanin Building, New York, New York
Mid-Continent Office: Mayo Building, Tulsa, Oklahoma
West Coast Office: Russ Building, San Francisco, California

Distributors: Smith-Booth-Usher Co., Los Angeles, Cal.; Edward R. Bacon, San Francisco, Cal.; F. C. Richmond Machinery Co., Salt Lake City, Utah; Worthington Machinery Corp. of Oklahoma, Tulsa, Okla.; Norvell-Wilder Supply Co., Beaumont, Tex.; Bovaird & Co., Bradford, Pa. European Distributor: Automotive Products Co., London, Berlin, Vienna.

MEASURE

REG.U.S.PAT.OFF.
TONCAN
COPPER
MO·LYB·DEN·UM
IRON PIPE

with a YARDSTICK OF 365 DAYS

By no other standard can the true value of Toncan Iron Pipe be gauged properly. Compared with ordinary pipe—in measurements of 365 days—the longer life of Toncan Iron Pipe is most convincing. It is a trouble-free pipe of highly refined iron, copper and molybdenum, with permanence processed into every tiny grain of metal. Use the 365-day yardstick to determine how much any pipe will cost—and Toncan Iron Pipe certainly will cost less.

For more than 20 years, Toncan Iron has been successfully combating rust and corrosion. Toncan Iron Pipe has demonstrated in service in every industry its ability to keep on working faithfully and economically, years after other ferrous pipe has had to be replaced.

The story of Toncan Iron Pipe for Permanence will be sent to pipe users gratis upon request.

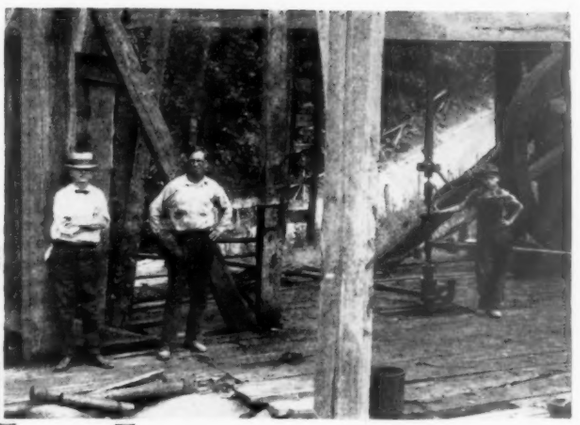
as protection to you we mark it BLUE

REPUBLIC STEEL CORPORATION

GENERAL OFFICES YOUNGSTOWN, OHIO

BIRMINGHAM DENVER PHILADELPHIA BOSTON DETROIT PITTSBURGH BUFFALO EL PASO CHICAGO INDIANAPOLIS SAN FRANCISCO CINCINNATI MILWAUKEE SEATTLE CLEVELAND LOS ANGELES ST PAUL DALLAS NEW YORK ST. LOUIS TULSA TOLEDO

A 12 year old boy starts this 16 year old 40 H.P. FRANKLIN ENGINE easily!!



OIL WELL SUPPLY COMPANY
Manufacturers of Oil Field Equipment
EASTERN DIVISION
OFFICE AT

To Whom it may concern:

Mr. Earl Arnett, son of Mr. Albert Arnett has been starting Franklin Valveless Producers Engines Type "X" 40 HP for the past two years.

Earl Arnett is 12 years old, weighs 80 pounds, and is 4 ft. 9 inches in height. Mr. Albert Arnett is a pumper employed by the Preston Oil Company, Union Furnace, Ohio.

This picture was taken on the Preston Oil Company lease, Andy Reinscheld Well No.8, Racine No. 822 Type "X", running over a period of sixteen years, the only repairs being a replacement of two sets Journal Caps and Bolts.

J. H. McClure
Albert Arnett

Hocking County

Personally appeared before me ..... and acknowledged that J. H. McClure and Albert Arnett this 23rd day of July 1930

Frances Williams J.P.
Hocking Co

"OILWELL" REG. U.S. PAT. OFF.

FRANKLIN
dependability and economy

FRANKLIN VALVELESS ENGINE COMPANY
FRANKLIN, PENNSYLVANIA

Distributed by

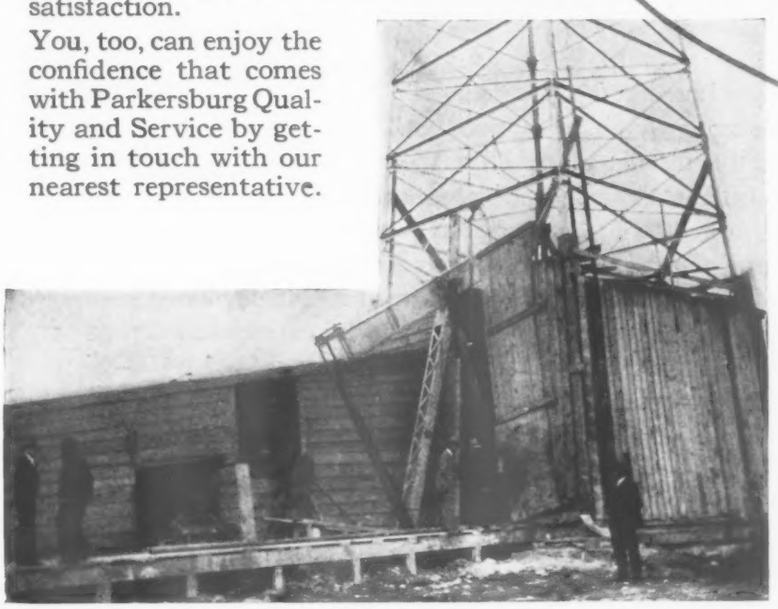
OIL WELL SUPPLY CO.

"Sure, it'll be ready, Bill-"

". . . . Oh, all right. . . . We're getting that complete Rig from Parkersburg . . . . Yes, fine service. They're always on the job and the Quality is right. Nope. . . . Never a minute's trouble. . . . That's one of the advantages of steel. . . . Yes. . . . 'n cheaper in the long run. . . . We're getting that I.C. Type Beam. It cuts out the side sway. . . . gives a better stroke. . . . Yeh, good scouts and in every field. . . . Sure, from stock. . . . All right."

Parkersburg Quality and Service appeal to Bill strongly for he remembers, years ago, when he was "Farm Boss," Parkersburg men were on the job then, too. Real, human, experienced men who knew the field and the equipment, were always ready, willing and anxious to please him. So it is with Parkersburg service through the snow and ice of winter or the hottest day of summer. Parkersburg Quality Products are followed through to satisfaction.

You, too, can enjoy the confidence that comes with Parkersburg Quality and Service by getting in touch with our nearest representative.



PARKERSBURG PRODUCTS

Steel Walking Beams and Pitmans
Rig Irons
Steel Derricks and Crown Blocks
Chain-Driven Sand Reels and Bailing Reels
All-Steel Standard Rigs
Bolted Steel and Aluminum Tanks
Portable Drilling Machines (Wood and Combination-Steel)
Miscellaneous Drilling Equipment
Steel Wheels (Bull, Band and Calf)

We subscribe to A.P.I. Standards

THE PARKERSBURG RIG AND REEL CO.

TRADE MARK REG.

THE PARKERSBURG RIG AND REEL COMPANY

Main Offices and Works

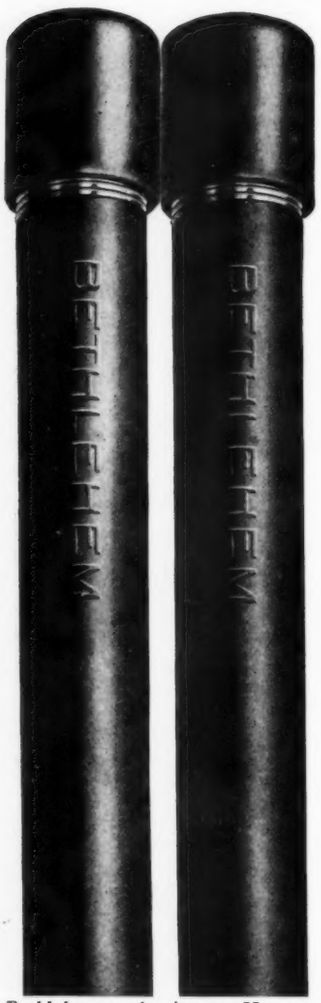
PARKERSBURG, WEST VIRGINIA

NEW YORK - TULSA - FT. WORTH - HOUSTON

Branches In All Active Fields

147-A

The Importance of GOOD STEEL in LINE PIPE



Bethlehem maintains at Houston, Texas, and Wilmington, Calif., well assorted stocks of line pipe, ready for immediate shipment. Both threaded and coupled and plain-end pipe are included in these stocks.

It is highly important to use good steel in line pipe manufacture. The character of service that the pipe gives, the length of its life, the cost of installing it and especially the ease with which it is welded, all depend to a large extent on the quality of the steel.

The steel used in the manufacture of Bethlehem Pipe is made especially for this purpose under the supervision of skilled metallurgists. From the mining of the ore through the finishing operations, the manufacture of Bethlehem Steel Pipe is carried out by one organization. Each step in the conversion of the steel into pipe is carried out under the supervision of men thoroughly experienced in pipe manufacture. The inspections and tests are most critical, so as to make certain that each length of pipe shipped conforms in every way to the Bethlehem standard.

BETHLEHEM STEEL COMPANY
General Offices: **Bethlehem, Pa.**

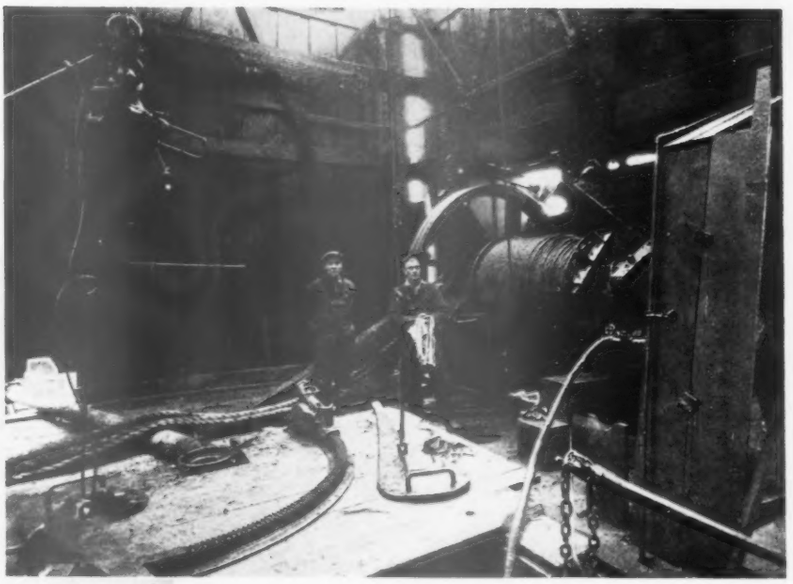
District Offices: **New York, Boston, Philadelphia, Baltimore, Washington, Atlanta, Pittsburgh, Buffalo, Cleveland, Cincinnati, Detroit, Chicago, St. Louis.**

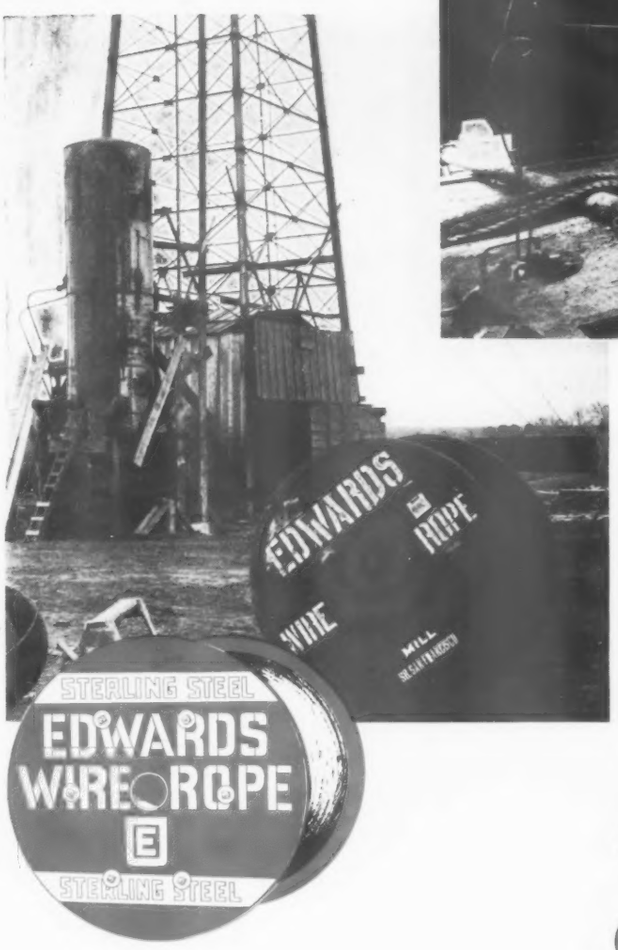
Pacific Coast Distributor: **Pacific Coast Steel Corporation, San Francisco, Los Angeles, Portland, Seattle, Honolulu.**

Export Distributor: **Bethlehem Steel Export Corporation, 25 Broadway, New York City.**

BETHLEHEM STEEL PIPE

FROM THE





DISCOVERY WELL

« « « «

THROUGHOUT THE OKLAHOMA CITY FIELD

« « « «

E. H. EDWARDS COMPANY
Standard Oil Building,
San Francisco

» » » »

Mid-Continent Distributors
HINDERLITER TOOL COMPANY
Tulsa, Oklahoma

« « « «

EDWARDS HAS BEEN SUPREME AMONG WIRE ROPES

EDWARDS WIRE ROPE

The Explorer must be sure of his base of supplies

The Oil Man must be sure of his equipment and its source

In the Arctic, the success of an expedition depends upon the food, the fuel, and the equipment available. The explorer who binds on his furs and starts off across the plains of jagged ice must be sure of his base of supplies. A failure of either the supplies or the source would mean disaster.

In the oil fields the success of a well depends upon the tools and the equipment available. Like the explorer, the oil man must stake the success of his venture upon his supplies and their source. A failure of supplies or service brings costly disaster.

Norvell-Wilder realizes its responsibility in serving as a base of supplies for many of the oil companies throughout the country. Norvell-Wilder men are as dependable as the equipment which they sell.

CALL THE NORVELL-WILDER MAN FIRST

A FEW OF THE WELL KNOWN LINES AVAILABLE TO YOU THROUGH NORVELL-WILDER

Alemite Company
A. M. Byers Company
American Cable Company
Baker Oil Tool Company
Borden Company
Byron Jackson Company
Chain Belt Company
Gardner-Denver Company
Hercules Motors Corporation
Jefferson Union Company
Jones & Laughlin Steel Corporation
Kennedy Valve Manufacturing Company
Kerotest Manufacturing Company
Lunkenheimer Company
Wright Manufacturing Company

Norvell-Wilder *Supply Company*

BEAUMONT HOUSTON SHREVEPORT FORT WORTH

EMERGENCIES
REQUIRE
SPECIAL EQUIPMENT

Wild Mary Sudik No. 1, I. T. I. O.
Sigmon No. 1, Prairie-Slick
Stout No. 1, Morgan

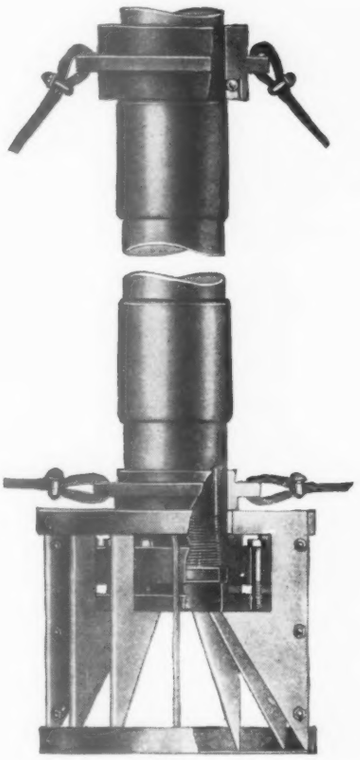
To those familiar with oil production these names mean, perhaps, the most spectacular "wild" oil wells in the world . . . more spectacular because of their proximity to city and town.

The extreme hazard to life and the great loss of oil necessitated the quickest possible action.

In each of these cases as with four other "wild" wells in the Oklahoma City gusher field, American Iron & Machine Works Company supplied the equipment for taming these tremendous gushers of oil and gas.

Wherever oil is found American Equipment is becoming more in demand for production purposes, when a fishing job is necessary, or when an emergency arises.

Complete information regarding our fishing and drilling tools will be gladly furnished upon request.



Special die nipple and hook-up used to shut in wild wells. The fan guide assists in bringing the die into proper position with the casing.

AMERICAN
IRON & MACHINE WORKS CO.
OKLAHOMA CITY, U. S. A.

MANUFACTURERS OF OIL FIELD EQUIPMENT

... but the pipe will not be damaged a bit if it's protected with

COLONA PIPE THREAD PROTECTORS

The making of good pipe requires skill, painstaking care, precision methods, and accurate, thorough, inspection.

B-U-T

You are not interested in how perfect the pipe is when it leaves the mill—*the thing that hits your pocketbook—is—the condition the pipe is in when it reaches you.*

Avoid rethreading costs—delays—imperfect joints—by insisting upon Colona Pipe Thread Protectors—they are available to all pipe manufacturers.

PITTSBURGH SCREW & BOLT CORPORATION

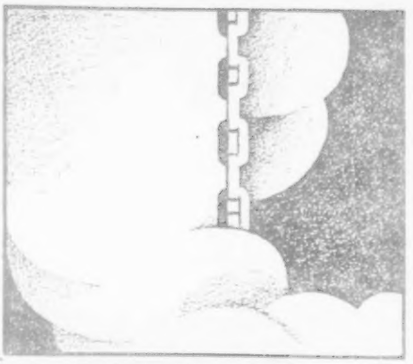
Colona Division

PITTSBURGH, PENNSYLVANIA

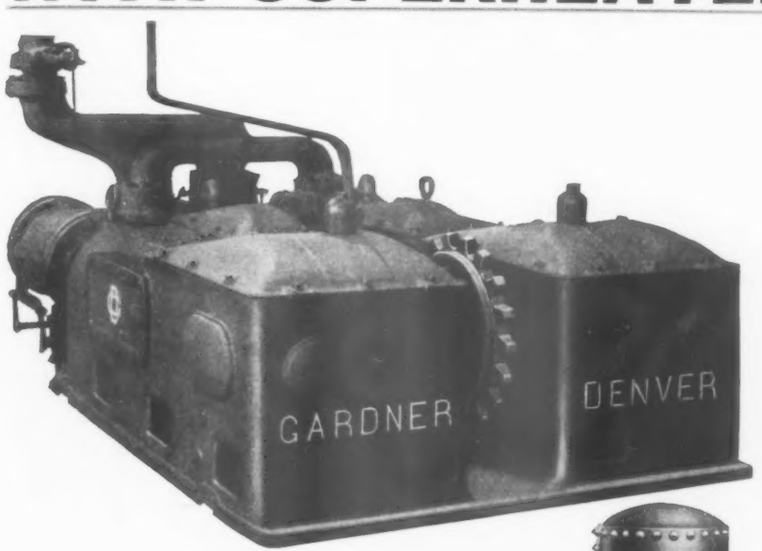
THE

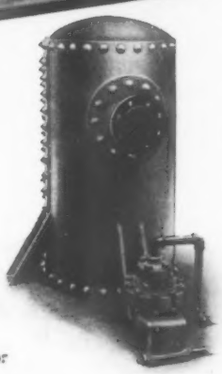
GARDNER-DENVER

PISTON VALVE
12 X 12
TWIN DRILLING ENGINE



WITH SUPERHEATED STEAM....





Heavy Duty Separator

Built for 350 lbs. Steam Pressure
Extra Heavy Crankshaft
Large Timken Main Bearings
Timken Crank Pin Bearings
Heavily Re-inforced Frame
Extra Heavy Steam End

"If Continental Sells It....There Is No Better"

J903

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CONTINENTAL EMSCO S. A. R., 7, Strada Eminescu, Ploesti, Romania

CONTINENTAL

The Sole Purpose of any Core Barrel is to bring up a Core—and that Core is only as Good as the Information it conveys

When all of the fancy words and phraseology are stripped away from the claims made for any core barrel, there remains only that one thing:

How near to being perfect is the core which it brings to the surface?

What is a perfect core?

"A perfect core would be an unbroken sample of the formation, the total length of which equalled the amount of formation cut in taking the core, the diameter of which was great enough to show the true lithological character, texture, and attitude of the formations penetrated, *and the characteristics of which were unaltered in any way while taking the sample.*"

The diameter depends, of course, on the size of the barrel being run, and the length of the recovered core may vary somewhat, but the inflexible requirement is that the core shall not be burned, distorted, or in any other way altered, so that a correct judgment of the formation penetrated may be formed.

The Baker Cable Tool Core Barrel brings to the surface as nearly perfect a core as it is possible to obtain, and that fact accounts for the world-wide popularity which has been accorded it.

We will be pleased to send you complete and convincing literature, on request.

Export Sales Office:
Room 736, 25 Broadway,
New York, N. Y.
Stocks of Baker Tools and Equipment are carried by Dealers in all active fields.

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SPENCER W. ROBINSON, EDITOR

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THE OIL WEEKLY

VOLUME 59, NO. 13 DECEMBER 12, 1930

Why Prairie's Predicament

An Association of Rumors

By GRADY TRIPLETT

TULSA.—Since conditions have finally forced Prairie Oil & Gas Company to retire as a purchaser of crude oil, it may be pardonable to look briefly into a state of affairs, for which the oil industry has no adequate explanation. It is a serious thing when a company has to lay aside its instruments which have for many years been useful. It is a grave thing when the imprint of ruin seems to leave its evidence in the chain of events that brought disaster.

To deal with the plight of Prairie Oil & Gas Company is to deal in rumors, for none of the few men who know the facts, has ever made them public. Perhaps the whole of the petroleum industry never will know all that went into reducing the foremost of the world's crude oil purchasing agencies into discard. So the responsibility for the condition can not be taken to any door and left with certainty.

Still there is so much that is inconsistent in the affairs of Prairie Oil & Gas Company that sympathy in the Mid-Continent amounts to resentment. Speaking of its future activities, the company in its statement, December 5 said, "effective January 1, 1931, and until further notice, it withdraws as a general purchaser of crude oil." And that means that the older settled districts of Oklahoma and Kansas will be without a market. These are the areas where the Prairie Oil & Gas Company was in many instances the only purchaser and no other buyer can, under existing conditions, carry facilities to the wells whose daily output is under five barrels.

Some history of the two Prairie concerns must be used to build a background for questioning more recent events. It is common knowledge that the Prairie Oil & Gas Company was established as a unit of the old Standard Oil Company by incorporation in Kansas, December 17, 1900. The Prairie Pipe Line Company was organized in 1915 to take over transportation facilities of Prairie Oil & Gas Company. When the offices of the pipe line division were moved from Neodesha to Independence, one box car was sufficient to transport all records and furniture. From such a beginning Prairie Pipe Line Company grew into the world's most extensive oil transportation system, with 12,500 miles of trunk and gathering lines, extending from the Texas Gulf Coast to the Great Lakes and capable of gathering 250,000 barrels of oil daily. Prairie Oil & Gas Company grew from its scratch point to a place where its daily output could, without the restrictions of proration, be boosted to close to 150,000 daily.

There was a period in 1929 when the pipe line company delivered 227,000 barrels of oil daily to its customers. In November just passed, these deliveries fell away to 87,000 barrels daily. How and especially why the Prairie lost a market represented in the difference in these totals are questions which bewilder and for which there is no public explanation.

The oil fraternity can not understand why the Rockefeller investment in the two Prairie companies was turned adrift, to land with the Petroleum Securities Corporation. But this investment of about 30 per cent of the stock in each concern passed into this investment trust. Certainly it could not have been dissatisfaction over profits, for the record of the two Prairie companies is exceeded in but few instances in petroleum circles.

Continental Trading Company, which left its stain on the petroleum industry after 1921, invariably raises its shadow when the question of the release of the Prairie to Petroleum Securities Corporation is under discussion. This, however, is but a guess, supplied to fit a fact.

James E. O'Neil, president of Prairie Oil & Gas Company was one of those who founded Continental Trading Company, which bought the Humphreys oil at Mexia and sold it back to Prairie, Standard of Indiana and Sinclair Consolidated at a price 25 cents higher than its purchase. The sting of the Rockefeller whip fell upon Robert W. Stewart for his part in the Continental deal. James E. O'Neil of the Prairie placed himself beyond the reach of the Rockefeller lash and also of the courts of the United States before the Continental deal became common knowledge. He is doubtless today a lonesome man, "somewhere in France," who would give all his worldly possessions for the privilege of spending his remaining years among his friends in the Mid-Continent.

The petroleum fraternity has never been satisfied with the position of James E. O'Neil. His record as he built the Prairie under Rockefeller guidance was not one to stamp him as an individual who so involved himself that others could order him away from his native land. Still he chose to leave, while others remained.

Those Liberty Bonds

Neither does it smack of reason that men of understanding took the profit of the Continental Trading Company deal and invested it in Liberty Bonds in the assurance that they had personal gain, for the Liberty Bond is the one security which can be traced. A school boy of tender years would know better. Still the difference between the buying price and the selling price of the Humphrey oil showed up in Liberty Bonds and a block of these same bonds were taken to Andrew W.

Mellon, Secretary of the Treasury, who was asked to make a donation to the treasury of the Republican party and accept the bonds.

Be it said that the Continental deal, questionable as it is, was neither the first nor the last of its sort in the petroleum industry.

Neither can the stand of the Rockefeller group be questioned, as it was expressed in the change of management of Standard Oil Company of Indiana. Such a course in the case of Prairie Oil & Gas Company for its part would have met identical approval, but the individual, who might have been replaced in the Prairie family, was beyond the reach of such treatment.

Other than resentment as to the Prairie angle of the Continental deal, the petroleum industry has no answer for the pulling away of Rockefeller support in the Prairie companies. But the Prairie part in that transaction did not involve several thousand executives and employes, to say nothing of thousands of independent oil producers and hundreds of trustful stockholders, and these are the individuals whose fortunes ebb as the position of the Prairie sinks.

ANNOUNCEMENT

For years the Prairie Oil & Gas Company as a crude oil purchaser has given its best efforts to obtaining and holding market outlets for its crude oil purchases. For the protection of its producing and refining customers it has, from time to time, increased its oil in stock when its market outlet did not equal its purchases. The market outlet of the company has been reduced to the extent that it now announces that, effective January 1, 1931, and until further notice, it withdraws as a general purchaser of crude oil. This action is in accord with its recent statements of policy that its crude oil purchases will be kept within the requirements of its markets. The company is now and always has been an advocate of conservation and of proration and will continue to operate in harmony therewith.

The fact that the Prairie Oil & Gas Company will cease its general purchase of crude upon the market does not prevent the producers from whom it has heretofore purchased oil from selling and having their oil transported by available common carrier pipe line facilities to such market outlet as the producer may have.

The employes of the Prairie have put their savings into Prairie stock, along with additional money, as a gift from the company. But the price of stock in Prairie Oil & Gas Company today will not allow these employes to realize the money thus invested. Back in the days when some oil field names, now forgotten, were on lips just as Seminole and Oklahoma City are now, the Prairie became the purchaser of crude oil and has for a score of years been the only purchaser at thousands of wells. The owners of these wells know only the color of checks from the Prairie offices at Independence as payment for crude oil. These are the individuals who face a period of no market with Prairie connections gone, for other purchasers can not afford to lay lines when they can have more oil than they need from flush areas of cheaper gathering charges.

The Merger Fails

Over the United States the estates of widows and minors have gone into investment in Prairie stock at the suggestion of bankers. But a system established to gather and transport more than 200,000 barrels of oil daily now has a market for less than 100,000 barrels and the prospect is for even lower deliveries. Those regular and liberal dividends on Prairie stock must be reduced or even passed.

It is almost too much to accept the rapier that might with justice be pointed at a few, as turned into an instrument to injure so many who could have had neither part nor knowledge in a deal for crude oil back in 1921. Still these are the victims of an industrial mystery which this sort of punishment does answer in part if not in whole.

Another answer that comes is that the attitude of the Prairie was for years autocratic. That charge comes more often from those of size comparable to the Prairie in its heyday. Where there is one to so accuse there are a thousand who remember acts of kindness from the Prairie.

It was some two years ago that the Prairie-Sinclair merger came along to answer the question of the release of Rockefeller holdings in the two Prairie companies. That transaction simmered daily and reached the boiling point frequently. When Sinclair Consolidated Oil Corporation sold its pipe line and crude oil purchasing agencies to Standard Oil Company (Indiana) the way was cleared for merger with the Prairie.

Then at the recent meeting of the American Petroleum Institute in Chicago, word came that the Prairie-Sinclair merger was off. So the turn of affairs for the Prairie presented another unanswerable question. There is no verification but the story is going the rounds that the deal was blocked in the house of Rockefeller, where a small personal interest in Prairie still remains.

Such action would require the attitude of turning a corporation out of the family circle and then denying it the right to enter another door. It does not fit the conception that has been earned by the humanitarian deeds of the Rockefeller fortune. The failure of the Prairie-Sinclair merger can not be placed in ony one spot. All that is known is that it reached a point where it seemed certain of consummation and then was abandoned.

How the markets for crude oil of Prairie output and Prairie purchase were taken away is a long story and one familiar to the petroleum industry. Any review of them leaves a conviction that it came about by systematic effort to deprive the Prairie of its only activities. The one conclusion from it all is that the effort has been effective.

The two Prairie units stand today a giant built for service, but with few to serve. What becomes of Prairie Oil & Gas Company and Prairie Pipe Line Company must be told by future events. With exceptional physical assets, strong cash assets and immeasurable good will, it would seem that somewhere there is an answer which will repay the employes for the faith they expressed in long service and investment, the confidence the public had in ownership of stock and the assurance oil producers had of a certain market for their oil.

To the credit of the Prairie it can be said that it remained faithful to those it considered most needy. Over a period it had to cut down on purchases but it continued to the last to take oil from the owners of wells in the old settled areas. While it watched its own market wither, it continued to buy more oil than it could sell. Today the crude oil held by Prairie Oil & Gas Company is close to 60,000,000 barrels, a part of it put in tanks when others were reducing stocks.

It is a far call from the day when a request to come to the Prairie office for a statement meant always something aggressive to the day when the statement meant that the Prairie would cease to do what it had been built to do. And there are thousands, who hope and who will lend assistance in whatever may be attempted to restore the Prairie banner back to its old place on the mast.

Mid-Continent Association Favors Oil Tariff

By H. H. KING
Staff Representative

DALLAS, Texas.—Endorsement of a tariff on petroleum imports was given by members of the board of directors of the general Mid-Continent Oil & Gas Association during the annual meeting held here December 5. Leaders of the petroleum industry in the Southwest were in attendance, and among other matters acted upon favorably was the creation of a central advisory committee on proration that will correlate the proration efforts of existing state organizations. The directors pledged their continued support to proration and resolved that allowable production in given fields shall be limited to market demand, while pipe line and market outlet shall be ratably distributed in all prorated areas. The group voted to help the unemployment situation by reducing the working hours of field forces rather than make discharges of nonessential workmen.

Officers elected for the ensuing year were taken from the ranks of independent companies and operators. W. N. Davis, Phillips Petroleum Company, Bartlesville, was re-elected president for the eleventh consecutive time. Other officers chosen follow: Wirt Franklin, Wirt Franklin Petroleum Company, vice president for Kansas; Tom C. Johnson, Wichita operator, vice president for Kansas; A. E. Landreth, Landreth Production Corporation, vice president for Texas; J. R. Crawford, Shreveport operator, vice president for Louisiana-Arkansas, and judge J. M. Henry, Roswell, vice president for New Mexico. Harry H. Smith was reappointed general secretary.

The petroleum import tariff issue proved to be the most important matter placed before the directors at the Dallas meeting. The issue was introduced by Wirt Franklin, who has conducted a drive for an import tariff for years. In speaking for the tariff, Franklin delivered one of the most convincing talks in his long career as champion of the cause, and concluded by offering a resolution to be voted upon by the directors. The resolution called for the association to endorse in principal the program to obtain legislation that will impose a tariff, and for the association to pledge its support unreservedly in such a program.

Presentation of this motion was promptly seconded by R. R. Penn, Penn Oil Company, Dallas, and chairman of the central proration committee for Texas. J. Edgar Pew, Philadelphia, vice president of Sun Oil Company, suggested that the association not take any definite stand on the matter as was the case at the last meeting of the American Petroleum Institute. Pew added that many directors were not versed on tariff matters, and for this reason the resolution should not be acted upon by the group.

E. B. Reeser, president Barnsdall Oil Company and head of the American Petroleum Institute, stated that he believed the tariff issue came within the rights of the association to act upon just as the wheat and lumber organizations have been fighting imports. Reeser mentioned that gasoline has lately been delivered to terminals near Baltimore by the Soviet government, and that negotiations were now pending for the Soviets to establish a gasoline terminal near Baltimore to make regular deliveries to the United States. Discussion terminated with these remarks. Chairman Davis called for a vote on the tariff issue, resulting in only one opposing vote, although some directors refrained from voting.

Financial statement of the general association was read by Harry H. Smith, secretary, and approved by the directors. Minutes of a conference of tax representatives of leading producers in the Mid-Continent held at Tulsa November 29 were submitted by C. B. Mapes, statistician for the association. This conference was held to discuss the manner in which the association could assist in obtaining better administration of tax laws, and also to outline the service that tax representatives of various companies might render the association in an advisory capacity regarding tax legislation now pending in the various states comprising the district. Various committees appointed at this tax conference were confirmed by the directors.

Davis on "Unit Operation"

Chairman Davis spoke on unit operation, and expressed the opinion that the economic troubles of the petroleum industry can't be cured so long as competitive conditions in a single oil pool continue. He predicted that when the industry recovers from its present depressed condition that danger of return will exist as long as competitive operations prevail in flush areas. Appreciation of unit operation has been gradually growing, and the American Petroleum Institute's unit operation committee has unanimously endorsed and agreed to apply wherever practical. He stressed the savings to be gained in development and operating cost by unit plans.

Fear still prevails among independent operators that unitization means the end of individualism, according to Reeser, and he suggested that the association appoint a committee of independent operators to make a study of unitization so the latter may help in recruiting supporters to the plan. Reeser pointed out that individuals and small companies are responsible for the majority of the field work now taking place in the Mid-continent. He offered comparative percentages by states as follows: Oklahoma, 77 per cent independents and 23 per cent majors; Arkansas, 97 per cent independents and three per cent majors; Louisiana, 71 per cent independents and 29 per cent majors; Lea County, New Mexico, 89 per cent majors and 11 per cent independents; Kansas, 73 per cent independents and 27 per cent majors; and Texas, 80 per cent independents and 20 per cent majors. Davis added that one out of every 10 wildcats completed in Oklahoma during the past year has opened a new pool, according to statistics.

K. C. Baker, San Antonio, stated that if independent operators are forced out of the oil business by economic conditions that they will join the big mass of people that do not understand the industry. He suggested that the major interests lend a hand in helping the independents solve their problems.

Remarkable progress on unitization work has been accomplished, according to J. Edgar Pew, who added that Sun Oil company has participated in more than a score of unit development programs. Numerous difficulties are encountered in putting over a unit plan of development, with lease obligations

and titles the major problems. He pointed out that the recoverable oil in many areas will be greater when development work is conducted on an orderly basis, and such is possible only by unitization.

Penn read wires received during the meeting that quoted R. D. Parker, chief supervisor of the oil and gas division of the Texas Railroad Commission, to the effect that 16,000 barrels of allowable production in the Texas Panhandle was without a market outlet. Parker described conditions as being deplorable, and that if a plan of relief is not worked out immediately the commission intends to issue an order calling for the enforcement of the state's common purchaser law.

Committee Appointed

Acting upon a motion offered by Penn, the directors caused a committee of three to be appointed to draft a set of resolutions outlining the position of the association in regard to proration enforcement. The resolution sets forth:

"That this association endorses the principle that in applying proration the allowable production in a given pool shall not exceed the ascertained market demand for oil therefrom, determined as above set forth, and the principle of ratable sale and production of oil within the several pools as above set forth, and this association hereby calls upon all producers to accept these principles and to co-operate fully with all state conservation agencies, the pipe line carriers, the purchasers, and all committees of the industry in making these principles effective.

"That this association hereby calls upon all pipe line carriers and purchasers of oil in co-operation with general proration committees and the local advisory committees of the producers, the umpires and other representatives of state conservation agencies in the various districts of the Mid-Continent area, and in co-operation with each other, to arrange their connections and takings as far as possible so as to assure to every producer participation in the market outlet to the extent of his allowable production by the application of the above principles; to make all reasonable extension of gathering facilities; to effect loans, leases, sales and exchanges of pipe line and gathering facilities to and with other pipe line carriers and where possible exchange oil in line with authorization made or that may be made by the conservation agencies of the states involved, and in general do all reasonable acts in co-operation with all agencies in assuring connections to all producers and in preventing the present inequities existing in the takings of oil, with the resulting dissipation of gas energy, the physical waste of both oil and gas and the demoralization of the industry.

"That this association earnestly commends the Railroad Commission of Texas, the Corporation Commission of Oklahoma, and the Commissioner of Public Lands and the State Geologist of New Mexico, for their sincere and earnest efforts toward the conservation of the oil and gas resources of these states."

Announcement was made at the meeting by Dana H. Kelsey, vice president, Prairie Oil & Gas Company, to the effect that his company will withdraw as a purchaser of crude oil in all areas until further notice on January 1, 1931.

Capt. J. F. Lucey, president, Lucey Petroleum Company, Dallas, and a member of President Hoover's committee on unemployment, solicited the aid of the oil executives to apply to labor the same yard stick that is being used in apportioning crude production to the extent of retaining workmen. He suggested that company officials remove fear of discharge so that employes would start buying. A resolution prepared by Captain Lucey and W. S. Farish, president, Humble Oil & Refining Company, Houston, placed the association on record as favoring a plan to place workmen on part time basis rather than to remove nonessential labor from payrolls, and cause the latter to become objects of charity.

Creation of a central advisory committee on proration matters to be set up by the association, with representation from all producing states, was sponsored by Penn, Burdette Blue, vice president and general manager of Indian Territory Illuminating Oil Company, and Reeser. Blue submitted the motion for the establishment of such a committee, and approval was given by the directors. The personnel of the committee will include: Reeser, Davis, Penn, David Donoghue, Fort Worth, technical advisor to central proration committee for Texas; Alvin Richards, Tulsa, Pure Oil Company, chairman of state-wide proration committee for Oklahoma; Ray M. Collins, state umpire for Oklahoma; D. Scott, Wichita, chairman of the state-wide proration committee for Kansas; Tom J. Johnson, Wichita, state umpire for Kansas, and others to be added later.

This central proration committee will function in an advisorry capacity in working with existing proration groups of each state. Its initial duties will be to analyze proration in each of the states, and endeavor to provide market outlets in order that producers may enjoy a fair share of the crude relief proffered by purchasers. Support will be given towards the emandment of state laws governing proration enforcement in order that proper regulations may apply. Sub-committees will be appointed from the technical ranks of the proration group of the various states to assist the central committee in its duties.

Penn stated that such a committee should enlighten operators as to why certain crudes are popular and others apparently of the same grade fail to obtain an equal share of the market outlet. He recited conditions in the North Texas district, where high gravity crudes have been passed up by purchasers to fill their requirements from an apparent inferior grade of oil. Discriminatory practices of purchasers in North Texas and Panhandle areas led to the break down of the price structure, according to Penn, and such developments may have been avoided by having some agency that could provide a true picture of the situation.

Pat Malloy, Tulsa attorney, who was recently appointed counsel for Sinclair Oil & Gas Company, availed himself of the opportunity to notify the gathering that his new connection was not made because of proration, as generally rumored. He added that Sinclair Oil & Gas Company wants an opportunity for an intensified study of controlled production; that it has no committed policy, and is not prepared to announce as to whether it agrees on the powers of the Oklahoma and Texas commissions.

McGrew Heads Louisiana-Arkansas Division of Association

Shreveport.—F. Ray McGrew, president, Standard Pipe Line Company of Louisiana, was elected president of the Louisiana-Arkansas division of Mid-Continent Oil & Gas Association at the annual meeting held in Shreveport Monday, December 8. He succeeds C. R. Minor, vice president of the Gulf Refining Company, as president.

Vice presidents elected were: J. R. Crawford, independent, Shreveport; H. W. Bell, Lion Oil Refining Company, El Dorado, Arkansas; D. W. Harris, Arkansas Natural Gas Corporation, Shreveport, and W. G. Gray, Ray Drilling Company, Shreveport. Joseph B. Elam, was re-elected executive secretary and Ben Johnson of Shreveport was re-elected treasurer.

The nominating committee which selected the new divisional executive committee, which was unanimously elected, was composed of R. E. Allison, J. R. Crawford and T. M. Milling. The new executive committee unanimously elected the officers.

Harry H. Smith, secretary of the general Mid-Continent Oil & Gas Association, delivered a brief address, reviewing the things accomplished and proposed at the recent general association meeting at Dallas.

Two High Court Decisions Uphold Gas Waste Law

LOS ANGELES.—Two important high court decisions within a week, both upholding the validity of California's gas waste law, were severe blows to the cause of opponents of the statute placed on the records 18 months ago and apparently indicated a favorable conclusion to the series of suits either being tried or awaiting the decision of some court higher than the Superior division.

Early in the week the District Court of Appeals at Los Angeles ruled that the injunction issued early in the year by Superior Judge Hazlett against Santa Fe Springs operators should stand, and that the law was valid in the opinion of the higher court. The higher court several months ago granted a temporary writ of prohibition which nullified the restraining order issued against certain Santa Fe Springs operators by the Superior Court until the higher court could pass upon the merits of the injunction, as well as upon the constitutionality of the law.

Later in the week the Supreme Court of California ruled that unreasonable waste of oil and gas may be prohibited by the necessary police power of the state, and that the gas conservation law is constitutional, at least as far as it applied to Santa Fe Springs operators at the time the suit was brought by the state to stop the huge gas waste and to establish certain potentials and gas-oil ratios within the field. The decision was the result of the petition of a few small companies for a writ to stay the full effect of the temporary restraining order against all operators in the Santa Fe Springs field. A part of the decision follows:

"Such substances, because of their peculiarity in the natural state, partake more of the nature of common property, title to which becomes absolute when they are captured or reduced to possession. Whatever refinements may be suggested as to the definition of the nature of property right in gas and oil beneath the surface and uncaptured, we are entirely satisfied that the waste of these natural resources may be regulated and the unreasonable waste thereof may be prohibited in the exercise of the police power of the state.

"It is contended that the real purpose of the statute is to curtail the production of oil so as to regulate and stabilize the market price thereof. We cannot agree with the contention. Obviously, the enactment is an effort on the part of the legislature to conserve for the present and future needs great natural resources in which the people of the state are interested.

"It may be that the enforcement of the statute throughout the oil and gas producing sections of the state may have an effect upon the market price of oil. But the fact that the field of economic law to some extent may be thus invaded may not justify an avoidance of the statute."

The operators who petitioned the court for a writ of supersedeas contended that the act was unconstitutional, that certain provisions of the statute were so vague that it would be impossible to arrive at what constituted an unreasonable gas waste, and that it was not within the rights of the state to exercise police powers over private property without due recompense.

The two decisions followed a favorable decision by Superior Judge S. L. Strother in the court at Hanford, who indicated by his ruling that the state has full regulatory power over gas waste. The decision was rendered in upholding the validity of the law, following hearing evidence affecting the Kettleman Hills field.

When Venice, California, was transformed to an oil boom town almost overnight, Knox, Powell, Stockton Company announced a location in the Walker Arms garage in that city. Forty-two 22-foot piles were driven through an opening in the roof of the garage to afford the concrete foundation a sound binding. To accomplish this the electric wiring and the pile driver itself were handled in such a way that no injury was done the walls of the structure. Finally, 30 25-foot railroad rails were driven to give additional strength. Concrete was then poured within the building. International Derrick & Equipment Company then erected an Ideco 122-foot derrick complete without disturbing the business of the garage or of the filling station operated on the corner.

California Strives to Prevent Market Crisis

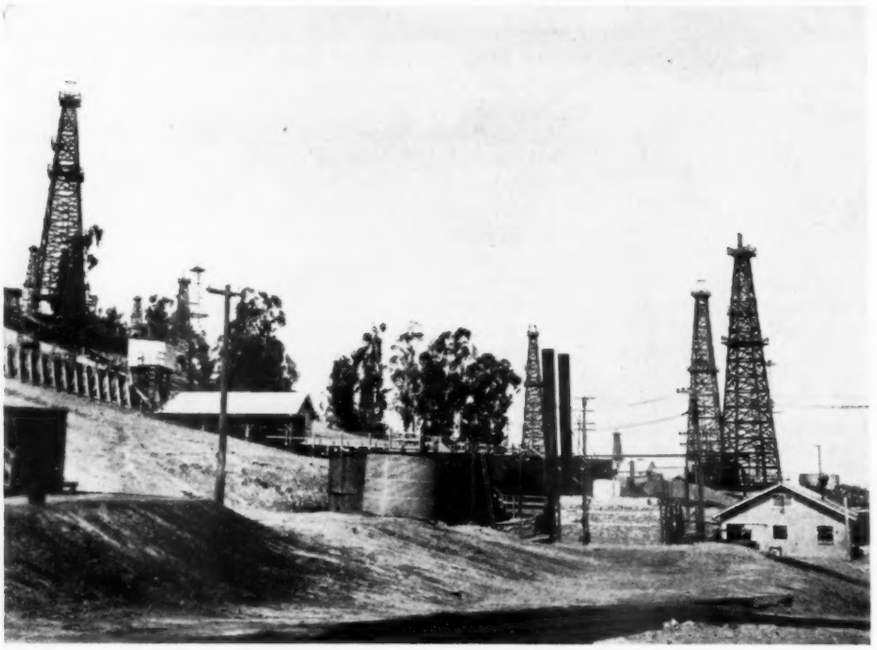
LOS ANGELES.—The plan to reduce California's allowable to some point around 500,000 barrels has been overshadowed by efforts to prevent a market crisis, but consideration of a much lower allotment has not been abandoned. A combination of circumstances has demonstrated the need for a lower state production and it is doubtful whether stocks can be reduced under the present arrangement.

Field production, refinery runs, refined outlets and many more factors have complicated the problem, with Playa del Rey nettling a crude market structure which has been none too strong for several months. This field is entirely outside the curtailment setup and as long as even the present marketing facilities are provided, there is doubt whether it will come into the fold. Crude from the field is being widely distributed at various prices, but several of the principal purchasers are beginning to back away from their customary allotments.

The state allotment is only 540,000 barrels, and an actual production to conform with this figure would relieve the present situation. With excesses at Kettleman Hills, Santa Fe Springs and Long Beach, and with a wide-open flow at Playa del Rey, average production is about 600,000 barrels, or 60,000 barrels more than the correct allotment.

To reach a lower figure, the settled fields which have al-

(*Continued on page 68*)



A central mud mixing plant of the Shell Petroleum Corporation in the Long Beach field. From left to right and down hill—the hopper, grinding machinery, mixing plant, conveyor, tanks, boilers and the pump house.

The Mud Problem in Rotary Drilling

By W. A. SAWDON
Petroleum Engineer, Los Angeles

ROTARY drilling in many districts is being faced with a serious problem in obtaining good mud for drilling fluid. Natural muds are often inaccessible in the immediate territory and have to be transported from other localities. Even these may not be entirely satisfactory as a drilling fluid for the quality of the mud is now being given more consideration than it has in the past. There is a realization that a good drilling fluid does much to prevent fishing troubles, to facilitate the running of casing, to insure completion without blowouts, to help keep the hole straight and to reduce drilling costs both directly (in decreasing wear on equipment and cutting down power requirements) or indirectly (as concurring with accidents which it prevents.)

Methods of improving the quality of mud are therefore being given considerable study. The necessity for a heavy drilling fluid has been generally recognized when high pressures are expected; but it has frequently been taken for granted that any required colloidal properties would automatically be supplied by the solid matter contained in the mud. Some natural muds are rich in colloids and when carefully watched will make a satisfactory drilling fluid. Many others, however, are lacking in colloidal matter or contain too great an amount of inert solids to permit them to function properly at the desired viscosity. In such cases the introduction of an admixture to supply the deficient qualities is necessary; and even where good natural mud is being used an admixture frequently is desirable.

The costs of obtaining natural mud for drilling fluid in the various California fields vary over such a wide range that no estimate can be furnished. These costs are influenced by the methods used as well as by the availability of the supply. In the Playa del Rey field near Venice most of the wells make too much mud in some formations and have to have it hauled away by tank trucks. While drilling in other formations, the same wells make little or no suitable mud and have to have a supply brought to them. The town lot locations cannot, of course, furnish any storage capacity. Mud from one well is therefore frequently hauled direct to another well and at a later date is taken to the first well from some third location. This mud is fairly rich in colloids and is heavy enough for the low pressures encountered in the field. When circulation is lost or deep fishing jobs occur, however, Aquagel is usually added to increase the supply of desired colloidal matter.

In many fields the mud is transported from a slough located near the city of Wilmington; this is furnished either in dry pulverized form or as a liquid. The accompanying illustration shows one of the plants where this mud is mined and ground. It is generally hauled in liquid form to locations within a radius of about 30 miles of the plant and is shipped in pulverized form—either by truck or railroad—to distant fields. The liquid mud is furnished as thick as possible and has to be thinned before being used as a drilling fluid.

Another method for supplying natural mud to drilling wells

A mud plant near Wilmington, California, preparing pulverized slough mud for use in various fields.

is shown in the photograph of the central plant of the Shell Petroleum Company at Long Beach. The mud mixed in this and similar plants is pumped to the various wells through pipe lines. Co-operative central mud plants are also in service and have been found advantageous where several companies with a limited number of wells each can pool their interests.

May Be Reclaimed

The reclamation of worn or gas cut mud will naturally follow when the mud fluid is expensive or difficult to obtain. All mud should be kept in condition at all times and especial attention should be paid to preserving its colloidal properties. When sand and foreign matter are removed, either by settling or mechanical means, the old fluids are generally thinned with water. This decreases the percentage of colloidal matter which will have to be replaced and this replacement is generally done by adding the proper admixture.* Vibrating screens are being used to some extent at the well and in the installation here pictured, the screen takes the place of the settling ditch and permits the returns from the well to flow through it and directly into the suction pit. Reclamation plants involving classifiers are now being tried out and a rather extensive one has been erected at Ventura by Associated Oil Company. Centrifuges and chemical reagents are also used by some companies.

There are still many differences in opinion as to what are the most important characteristics of the best rotary drilling fluid. After considerable laboratory work coupled with field experience, several of the larger producing companies have standardized upon a maximum weight of 70 pounds per cubic foot or 9.4 pounds per gallon for mud during ordinary drilling. With this limit on weight the driller will add sufficient concentrated colloidal matter to bring the mud up to the desired consistency or viscosity and at this limiting weight there will be ample colloids present in the thickened mud to guarantee satisfactory performance. Except for the weight which must be supplied to overcome pressures encountered in the producing zone and intermediate oil, gas or water strata, practically all the important properties of a drilling fluid arise from its colloidal action. The viscosity of a fluid is frequently used as an indication of high colloidal content. Since the viscosity is actually produced by the amount of solid matter contained, a mud can have a viscosity that will be so great as to prohibit pumping and yet have little or no cololidal properties.

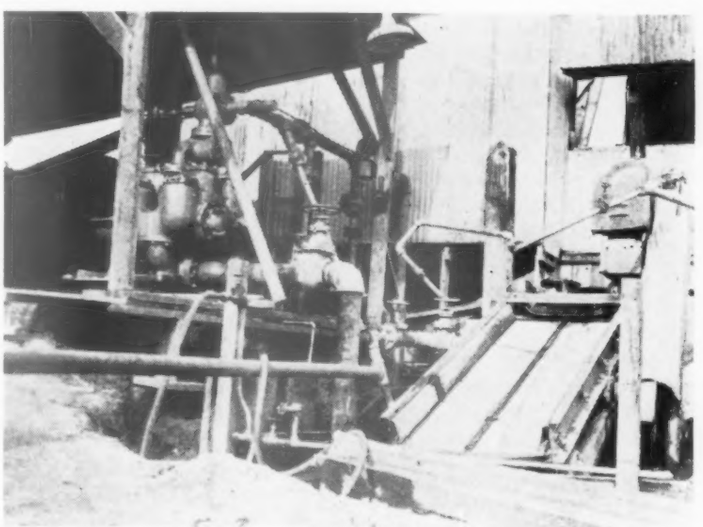
Colloids naturally give viscosity to a fluid and this viscosity increases with an increase in the percentage contained; but since colloidal matter will give the desired degree of suspension and gelling qualities with a very small percentage of solid material, a drilling fluid that has high colloidal properties and reasonably low viscosity can be obtained by the substitution of colloids for the solids which do not readily remain in suspension. This is important in considering the first requisite of a drilling fluid, i.e., the removal of cuttings; for the suspension of solids must be great enough to carry the cuttings to the surface with a velocity equal to that of the fluid itself. Yet—and this is especially true in deep drilling—the viscosity must be kept down to make the necessary pump pressure as low as possible.

High viscosity furthermore retards the settling out of cuttings. This settling property also limits the concentration of the colloidal matter itself since too much of it in the fluid will be accompanied by a high viscosity and poor settling. Experience is here most valuable and shows the desirability for fluid control. For this reason, many companies are using small quantities of an admixture that has great colloidal qualities and are adding it to the fluid after thinning it with water. This keeps down the viscosity and yet provides a suspension of solids sufficient to bring the cuttings to the surface.

The desirability of keeping all solid matter contained in the mud fluid in suspension when circulation has ceased is well recognized. The colloidal properties of the fluid can alone accomplish this; and while the colloids themselves must remain in suspension, they must also keep the other material from settling to the bottom of the hole. The gelling action caused by the colloidal matter must take place as soon as circulation stops and the importance of keeping the drilling fluid properly supplied with colloidal matter is evident. It is a means of insuring the successful running of casing. It becomes increasingly important as the well becomes deeper since the time during which there is no circulation increases with depth and offers more opportunity for the inert solids to settle to the bottom. Even when changing bits, this property is necessary and a drilling fluid kept constantly in proper condition will prevent many a fishing job caused either by casing or by drill pipe.

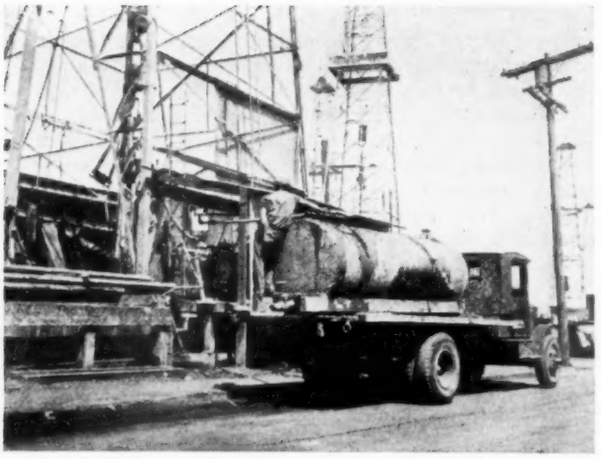
Action of Colloids

The sealing up of the walls of the hole and lubrication are



A vibrating screen in the Montebello field, California

*The Oil Weekly, October 17, 1930, "Vibrating Screen Cleans Mud—Makes Big Saving," by Brad Mills.



A tank truck being filled with surplus mud from a well in the Playa del Rey field. This mud will be taken to another well for use as drilling fluid.

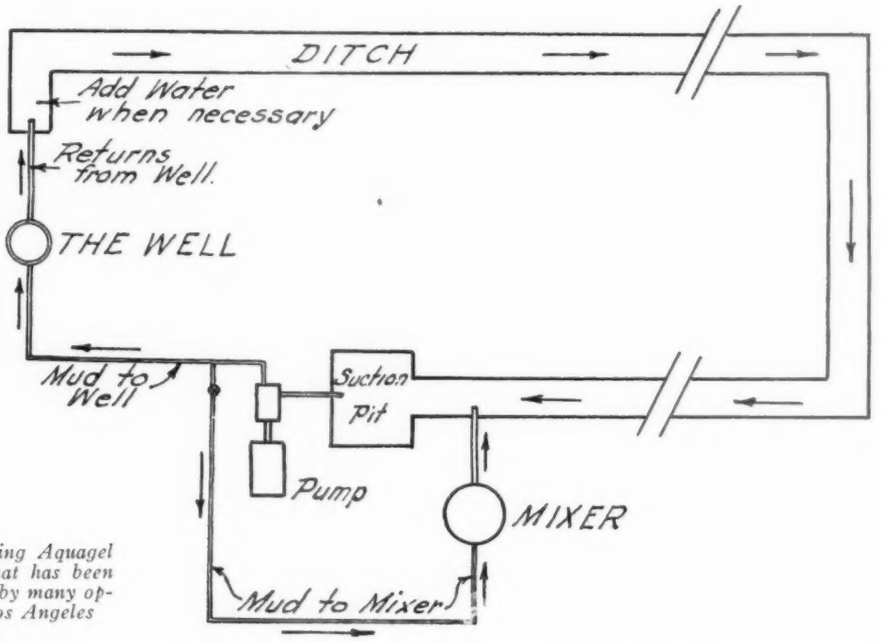
both direct results of colloidal action in the drilling fluid. The more highly concentrated the colloids are, the better these sealing and lubricating qualities will be. The amount of colloidal concentration, however, is limited but it will probably be found sufficient for these purposes except in unusual conditions. With these conditions, which will usually cause a loss of circulation, a greater amount of colloidal matter can be added temporarily, and when remedied, the fluid can be returned to its normal state.

The use of poor mud has been responsible for many fishing jobs, blowouts and other difficulties. Whether a fluid is unsatisfactory because of lack of attention to its condition or to a deficiency in its original composition, there is little doubt that it can be improved to a considerable extent by the addition of a proper admixture and the removal of harmful solids. The selection of the admixture should be made with careful consideration of the properties with which it is to endow the drilling fluid together with the quantity that will be required and its freedom from undesirable features.

An admixture must, of course, be correctly introduced into the fluid if it is to be successful. The accompanying sketch shows the method being used in adding Aquagel to mud fluid in several fields in the Los Angeles Basin. It has been found economical and easily manipulated. The arrangement is general in its application and indicates that the admixture should be mixed with the drilling fluid as near the suction pit as possible.

The mixer shown is a jet type and insures the thorough mixing of the material with the mud fluid—or with water, if such is desirable. It has resulted in the discharge of an even and uniform mix, without lumps, and with each particle thoroughly wetted. It consists of a sheet steel inverted cone into the top of which (about 30 inches in diameter) the admixture is dumped. The bottom enters the top of a three-inch tee which is placed on a two-inch line from the discharge of the mud pump. This two-inch line is reduced to one inch at the tee and a one-inch nipple extends through a bushing a little beyond the center of the tee. A plate in the bottom of the cone shaped hopper contains a hole which allows the admixture to fall into the tee and be mixed and jetted into a three-inch line which leads from the side of the tee opposite that through which the one-inch nipple is introduced. The three-inch line carries the mixture to the ditch or the suction pit where it enters the circulating system. The rate of mixing is regulated by the size of the hole in the plate in the bottom of the hopper.

By using this method, any amount of admixture can be added whenever desirable. It can readily supply colloidal matter to the fluid as it becomes denuded and, by thinning the mud first, it can replace objectionable solid matter to meet conditions as they arise. When weight material is desired, the same mixer is used. Some companies, especially those using large amounts of admixtures in their wells, do the mixing with cement mixers, generally of the type used for oil well cementing. Any convenient method, however, is applicable as long as the mixing process is thorough and the amount can be kept reasonably close to that desired.



A method of mixing Aquagel with mud fluid that has been found satisfactory by many operators in the Los Angeles Basin.

Mexico's Future Petroleum Possibilities

By JACK LOGAN
Staff Representative

Glenrose Lime Promises Petroleum Production in Coahuila

THE northern border of the state of Coahuila, Mexico, juts up into Texas, one might say, lying as it does south of the great "horse shoe" formed by the Rio Grande in the "Big Bend" country. The river first heads northward around the great bend at a point south of Marathon and Fort Stockton, Texas, and the bend follows a course south of the famous Crane-Upton County, Yates and Big Lake fields.

The Pecos River, which traverses the Yates field, empties into the Rio Grande along the northernmost portion of that "Big end," and the towns of Del Rio and Eagle Pass in Texas are on the east side of the bend. The Coahuila border extends still farther south, almost to Laredo.

All this northern portion of Coahuila, south of the "Big Bend" country, is rugged, and within it numerous structures favorable for oil accumulation are known to exist. The Cretaceous-Eocene contact cuts across a small section of eastern Coahuila, and the most extensive formation in the state is Comanchean limestone, which is more folded than the same formations north of the Rio Grande.

The lower Comanchean rocks at their outcrop in the Burro Mountains, west of the Rio Grande, show considerable oil saturation in basal Glenrose limestone of the Lower Cretaceous. It was from the Glenrose lime that Rycade Oil Corporation established gas and some oil production during the past four years in Maverick County, Texas, 20 miles east of Eagle Pass on the Rio Grande. That company's Chittim 1 developed a flow of 5,000,000 cubic feet of wet gas daily in the Glenrose on November 11, 1926, at 5515 feet, and on April 29, 1927, at 5590 feet it reached the main gas horizon, which tested 28,000,000 cubic feet of wet gas daily and produced 100 barrels of 56 Baume gravity distillate per day for a short time.

Sabinas River, near San Juan de Sabinas, Coahuila

This and two previous articles have dealt with prospects for oil development in Northern Mexico. Next week Mr. Logan will discuss the legal aspects under which this development goes forward, in which he will reveal that popularly Mexican regulation is more condemned than understood.

About one dozen wells have been drilled in the Rycade Oil Corporation field, on the Chittim and Sullivan ranches, and several of them are commercial gas producers from the Glenrose lime horizon, supplying the new pipe line of Texas Gas Utilities Company of Del Rio. That company is marketing the gas to industrial consumers in and around Eagle Pass and Del Rio. Aside from the commercial producing horizon, an interesting showing was obtained in a shallower horizon. Rycade Oil Corporation's Chittim 2 encountered a showing of one barrel of 17 gravity oil in Eagleford shale at 2410-60 feet, and it was subsequently made an unusually deep test, being abandoned finally in Glenrose lime at 7635 feet.

It is pointed out by geologists familiar with northern Coahuila that the Glenrose lime should also produce in that area under favorable structural conditions, and it is possible that deeper production may be secured from Permian and Pennsylvanian rocks.

Structural Trend

Extending almost due northwest from the Rycade field in Maverick County, through Jiminez, Coahuila, and on in a more or less straight line for a distance of at least 100 miles, and probably much farther, there is one extensive trend of folding, the above indicated extremity being at a point about 25 miles south and slightly west of the mouth of the Pecos River.

Along the structural trend on the northwest extremity is the Tenientes structure, about 30 miles west of Del Rio, Texas, and on it the Ohio-Mexico Oil Corporation has drilled one deep test and is drilling a second. The first, Zambrano 1, fairly well on the top of the structure, started in Georgetown lime and was drilled through lower Cretaceous to 4780 feet, encountering no showings of oil or gas, and ending it is stated, in Arkose. On the same structure, about 12 miles east of the

Eagle Ford formation near Silencio Station, northeastern Coahuila, midway between San Juan de Allende and Sabinas on Eagle Pass-Saltillo branch of National Railways of Mexico.

Left—Sabinas River, near San Juan de Sabinas, Coahuila.

first well and about 12 miles southwest of Villa Acuna, Coahuila, which is across the river from Del Rio, Texas, the same company is drilling San Diego No. 1.

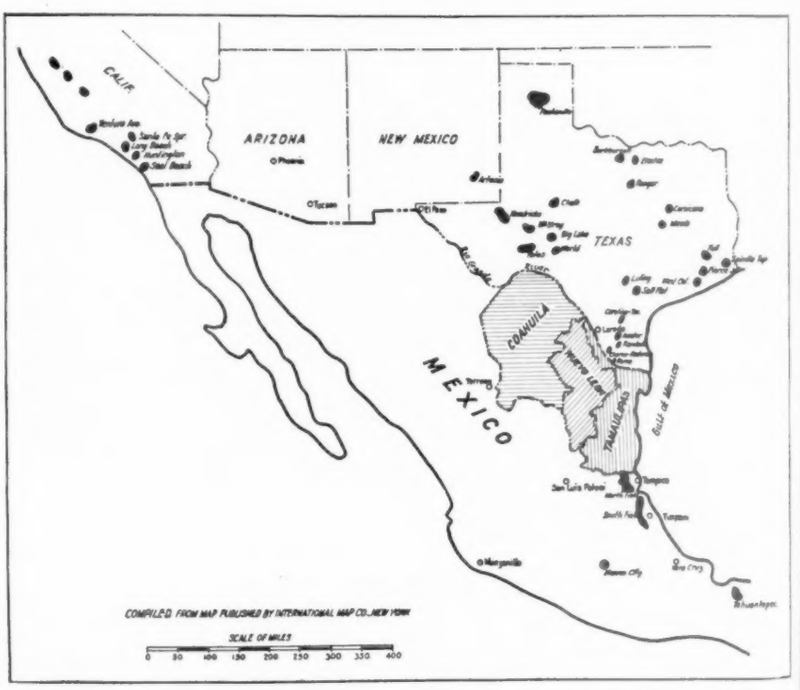
Five miles south of Piedras Negras, which is across the Rio Grande from Eagle Pass, in a locality 20 miles south of the above mentioned trend of structure, A. Sandoval financed and drilled a 480-foot well on his 10,000-acre ranch, and it is reported that at 445 feet an oil sand was struck, which proved to be 15 feet thick and which for a while was reported producing about one-half barrel 32 gravity oil daily.

Eighty miles southwest of Eagle Pass and Piedras Negras, about 10 miles west of the town of Sabinas, which is on the Piedras Negras-Monterrey branch of the National Railways at the point where it crosses the Rio Sabinas, there is an anticline which might be called the Esperanzas Anticline, lying 15 miles east of the Sierra de Ovallos (mountains). On it, just outside the town of Los Esperanzas, the Mexican Zinc Company drilled a well 3420 feet deep which had several gas shows, the first being at 1986 feet. Detailed information on the test is included in the accompanying list of wells. The Ohio Mexico Oil Corporation has made a location on this structure, it is reported, and will drill it when the rig now in use on the San Diego test is available for moving to the site.

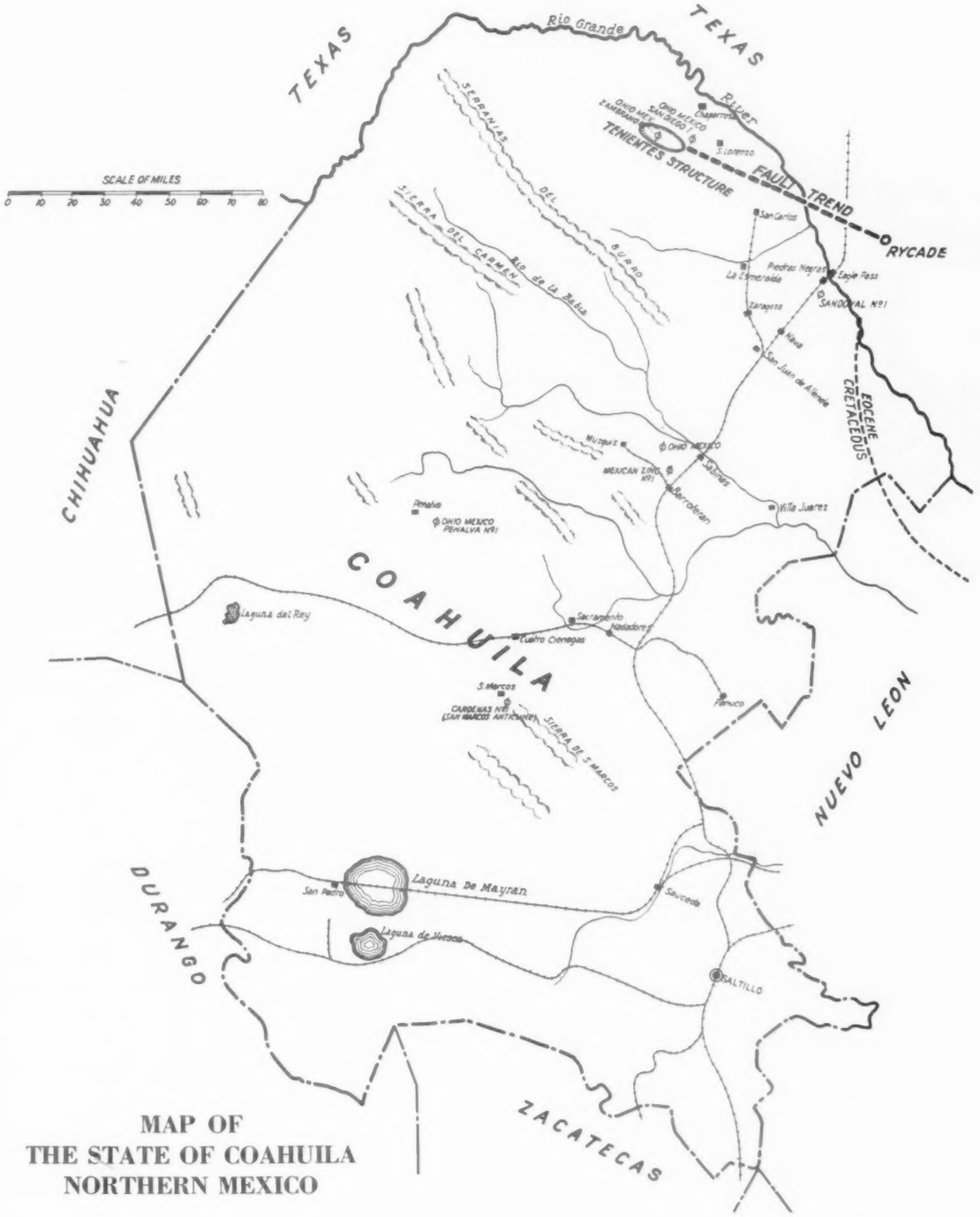
Farther to the southwest and immediately north of the town of Nadadores, the Crotty interests of San Angelo, Texas, are reported to have acquired exploration rights on one million acres of land covering a structural trend extending northwesterly from Nadadores for about 20 miles to the Tinaja and Agua San Antonio ranches.

Still farther west, almost at the geographical center of Coahuila, and about 40 miles due northwest of Cuatro Cienegas, Ohio Mexico Oil Corporation drilled a well through Lower Cretaceous formations and did not encountered oil or gas showings.

San Marcos anticline is located 25 miles south of Cuatro Cienegas. Details concerning it are included in the accom-



Key map showing Mexican States of Coahuila, Nuevo Leon, and Tamaulipas, with reference to oil fields in Southwestern United States and Mexico. See also insert map, THE OIL WEEKLY, *December 5, 1930.*



MAP OF THE STATE OF COAHUILA NORTHERN MEXICO

Showing location of tests for oil drilled and drilling.

panying list of wells, a test having been started there by Compania de Petroleo "Coahuila" on the Francisco M. Cardenas lands.

Ohio Mexico Oil Corporation is the largest single owner of concessions in Coahuila. It is a Mexican corporation, and its holding company is Mexico Ohio Oil Company, a Delaware corporation, which in turn is a subsidiary of Ohio Oil Company of Findlay, Ohio. The concessions held (reported to be around 4,500,000 acres in northern and central Coahuila) were taken over largely from T. S. Hogan and T. B. Hoffer. In addition to cash, those men received a stock interest.

Ohio Mexico Oil Corporation is to spend about one million dollars in development work in Coahuila, according to the terms of the purchase agreement, it is said. Ohio Mexico Oil Corporation has its headquarters in Saltillo, Coahuila, in charge of E. W. Messimer, managing director. Aside from the acreage held by the above company, there are numerous large and small holdings in the hands of independent operators. The major companies interested in the development of the territory to the south of Coahuila in Nuevo Leon and Tamaulipas are conspicuously absent in Coahuila, with exception of Mexican Gulf Oil Company, which holds concessions on more than 10,000 acres in the state.

Erwin Corporation holds oil and gas rights on two large ranches in Coahuila about 50 miles west of Eagle Pass and a few miles west of Zaragosa. One of these, the Esmeralda, consists of about 150,000 acres, while the other ranch, the Pensamiento, comprises approximately 94,000 acres.

WELLS DRILLED OR DRILLING IN COAHUILA

AS OF NOVEMBER 15, 1930

Mexican Zinc Company . . . . . Los Esperanzas Well
Near railroad station of Los Esperanzas. . . .
Drilled to 3420 feet; had several gas shows.

This well was abandoned at 3420 feet on July 12, 1930. It had several gas shows, the first being at 1986 feet, blowing the tools out of the hole. The well was located on what might be called the "Esperanzas Anticline,"—an anticline between the Esperanzas Coal Basin on the southwest and the Sabinas Coal Basin on the northeast. Most of the hole drilled was in Eagleford formation. It started in uppermost Upper Cretaceous, immediately under coal beds, and ended probably in Edwards lime.

Ohio Mexico Oil Corporation . . . . . Penalva No. 1
Dry hole, drilled 40 miles due northwest of Cuatro Cienegas.

Drilled through Lower Cretaceous.

Ohio Mexico Oil Corporation . . . . Zambrano No. 1
On Tenientes Structure, 25 miles due west of Villa Acuna (across from Del Rio) . . Dry hole, drilled to 4780 feet.

Surface formation was Georgetown lime; went through Lower Cretaceous formation.

Ohio Mexico Oil Corporation . . . . San Diego No. 1
Second test on Tenientes Structure. . . Drilling

Located 12 miles east of above well on Zambrano ranch, about 12 miles southwest of Villa Acuna.

Compania de Petroleo "Coahuila" . . . Cardenas No. 1
On San Marcos Anticline, 25 miles south of Cuatro Cienegas, on Francisco M. Cardenas lands

On April 13, 1926, H. D. Dana, Laredo, Texas, gave following report on this well in his mimeographed periodical:

"The above company, supported by Fort Worth, Texas, capital, is drilling this well, with James F. Martin Company of Tampico as contractor. Materials are being moved to the location.

The well is of considerable geological interest. It is in the lowest horizon yet to be tested in Mexico, the location lying several hundred feet below the base of the Tamasopa limestone, in what Mr. Ralph Arnold describes as the "Red Beds," and in which he has found Commanchean fossils. The geology here has also been worked out by Mr. Burton M. Clark.

The area near the location is somewhat mineralized. The massive cliffs which surround the hollowed anticline contain ores which are being mined at present. Evidences of vulcanism are also present in the hills to the north and south.

It is pointed out that there are possibilities of penetrating the Pennsylvania here. The recent discovery of an outcrop of Pennsylvania age in Central Tamaulipas gives rise to possibility that a continuous horizon of that age may extend from Tamaulipas through Coahuila to west Texas and Wyoming with the consequent possibility that an entirely new productive horizon may be developed in Mexico.

A. Sandoval . . . . . Sandoval No. 1
Five miles south of Piedras Negras, which is across Rio Grande from Eagle Pass. . . Yielded small amount 32 gravity oil at shallow depth.

Sr. A. Sandoval drilled this well on his 10,000-acre ranch on a location five miles south of Piedras Negras and two miles southeast of Villar Fuentes, on fault scarp known as the Fuentes Break. A report on the well was made by H. D. Dana, Laredo, Texas, in his oil and scout report of April 13, 1926, as follows:

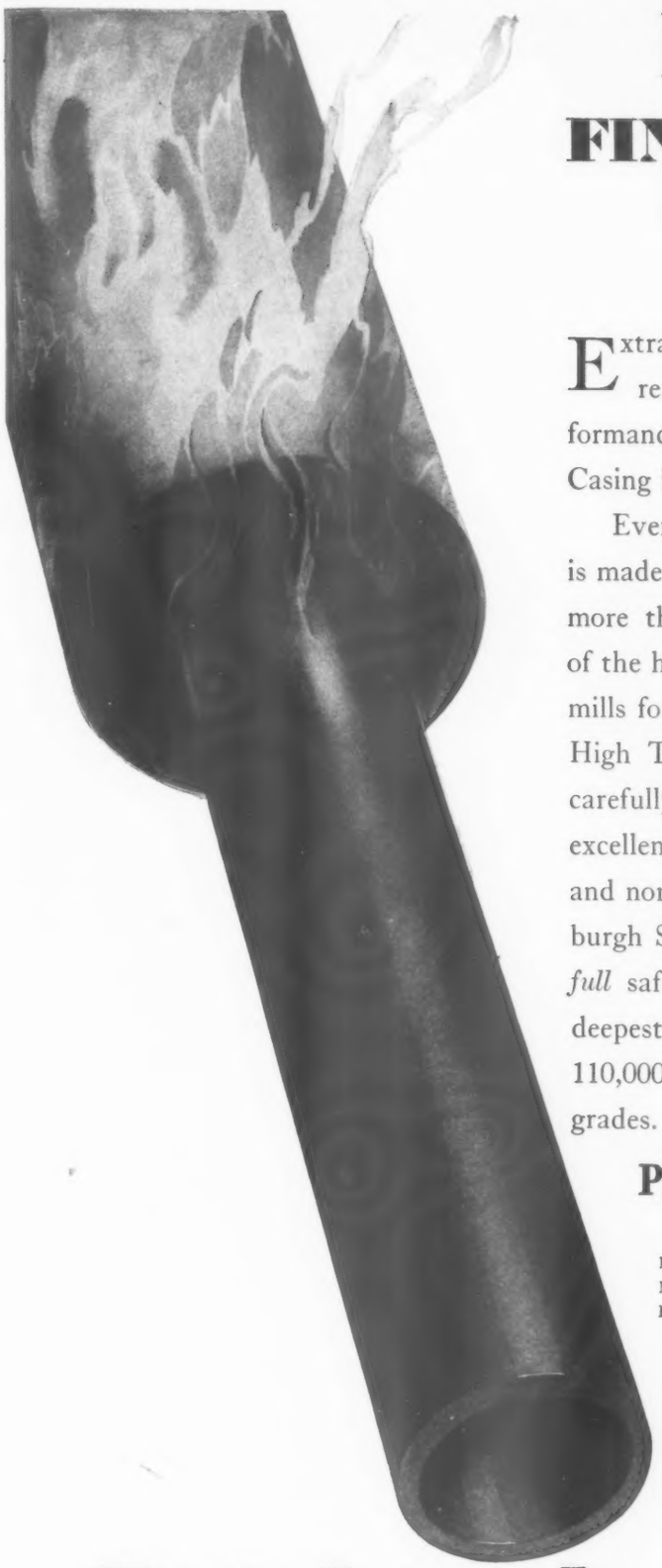
"The test is being drilled with a Cyclone Portable machine driven by gasoline engine. The original intention was to search for water for irrigation purposes.

"The hole is at present 480 feet deep; 365 feet of 4½-inch casing serve as a water string. The well was shut down on day visited, waiting for casing to run to bottom.

"Two thin strata of coal were passed through. They are of the Cretaceous period, the blue-gray sands and shales passed through have physical characteristics of the surface outcrops of that age. It is probable that these sands belong to the group now generally known as the Eagle Pass series.

"At 445 feet an oil sand was struck. It proved to be 15 feet in thickness and is producing about a half barrel of oil a day at the present time. The oil is a clear, live lubricant of about 32 gravity. Part of this production is being saved for use on the drilling machinery.

"The hole has caved for 30 feet. It is planned to clean the hole, run casing and attempt to make a small commercial producer of the well. Mr. Sandoval, the landowner, is doing the entire financing. He is very enthusiastic and intends to drill several other holes near the present one in an attempt to give both this sand and possible deeper ones a thorough test.



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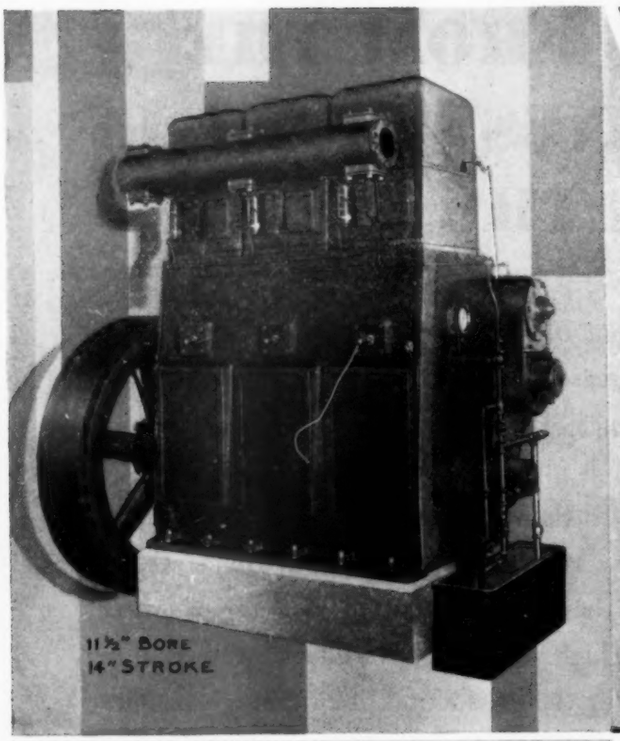

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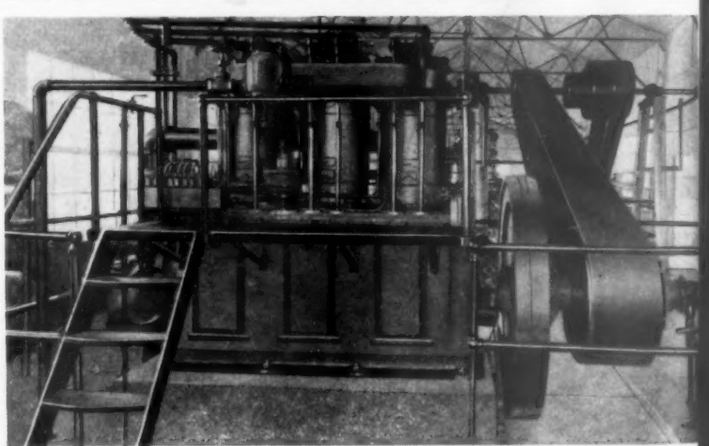

CYLINDER COMBINATIONS — SPEEDS — HORSEPOWERS

Cylinder Size 11½" dia. x 14" stroke.

R. P. M.	300	327	360	400
B. H. P. 2 Cylinder Engine	75	80	85	100
B. H. P. 3 Cylinder Engine	110	120	135	150
B. H. P 4 Cylinder Engine	150	160	175	200

(Also Built in 5 and 6 Cylinder Sizes)

NOTE: This engine is convertible from a gas to a Diesel engine — or vice versa — maintaining the same horse-power ratings. The cylinders are cast enbloc with removable liners.

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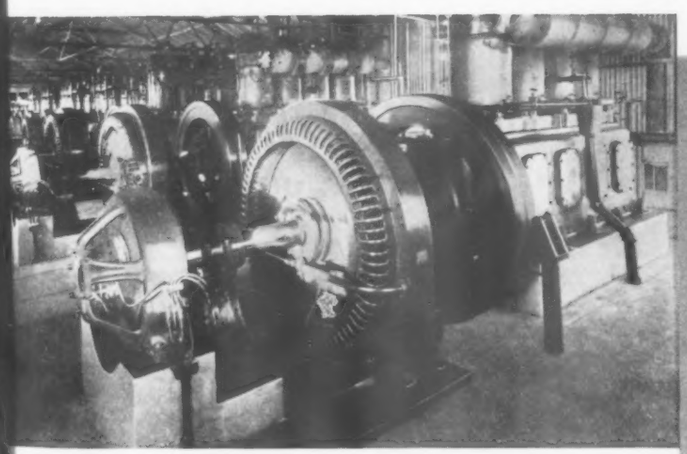
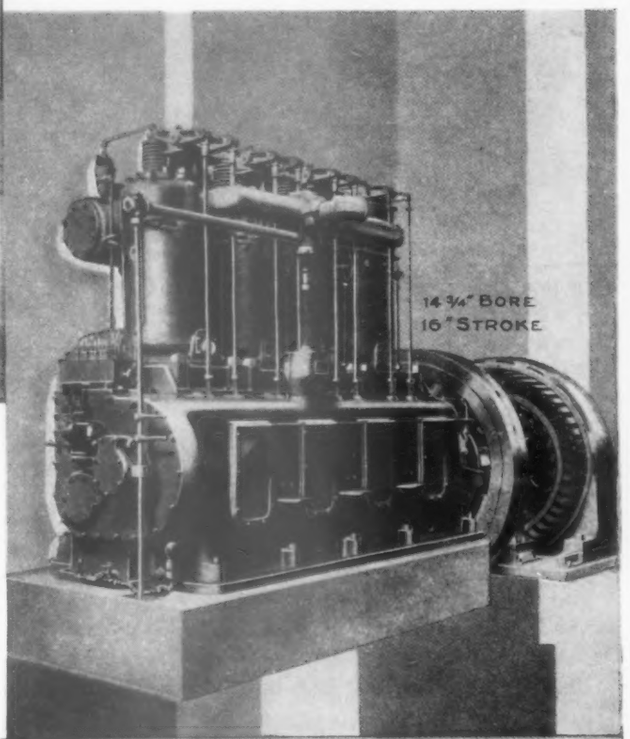


Cylinder Size 14¾" dia. x 16" stroke.				
R. P. M.	240	257	277	300
B. H. P. 3 Cylinder Engine	165	175	190	210
B. H. P. 4 Cylinder Engine	215	230	250	280
B. H. P. 6 Cylinder Engine	325	350	375	415

Cylinder Size 18" dia. x 20" stroke.
Brake Horse Power at 225 R. P. M.

3 Cylinder	4 Cylinder	5 Cylinder	6 Cylinder
280	375	470	565



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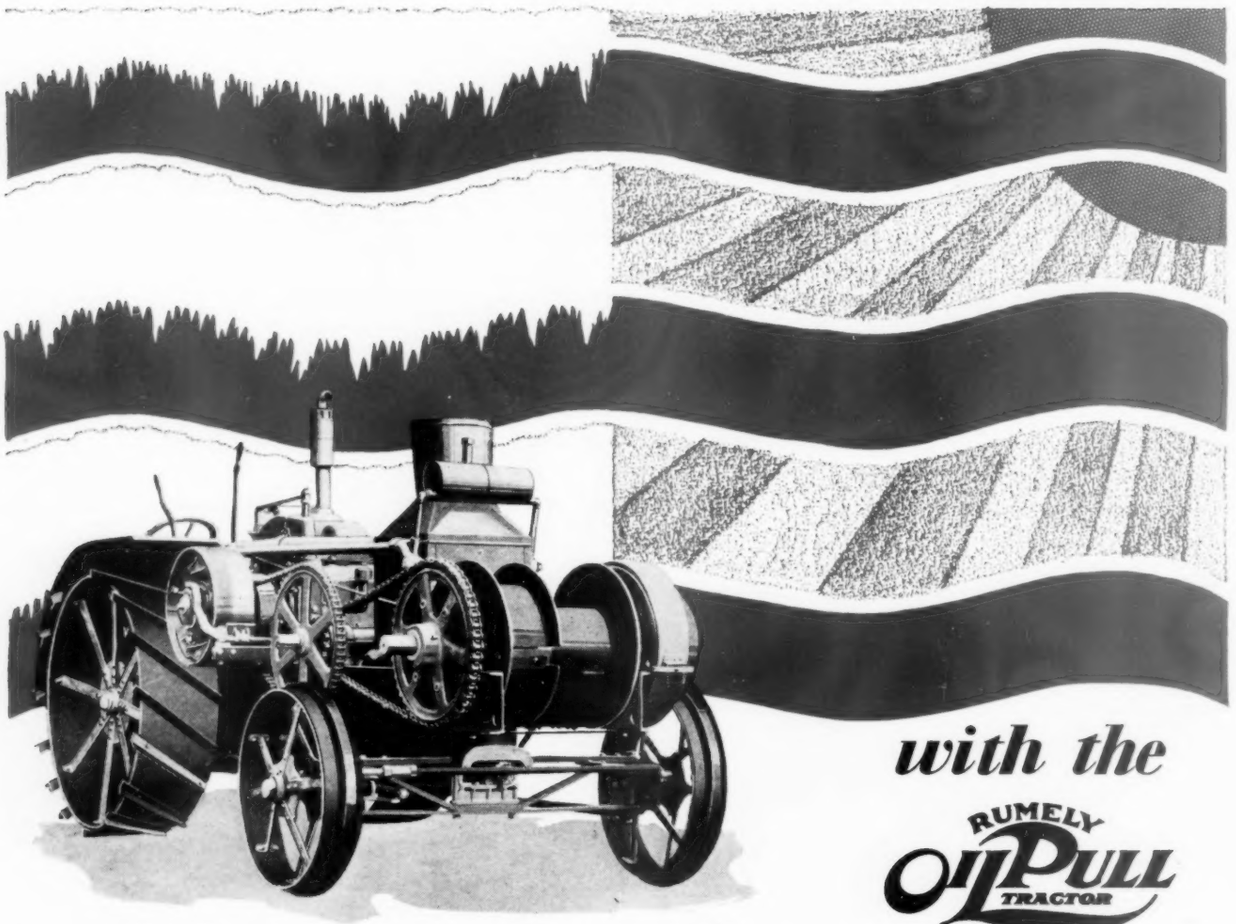
Winter and Summer



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Characteristics Which Determine *The* Value *of* Oil Zones

By GEORGE O. SUMAN
Petroleum Engineer, Associated Oil Company

OBSERVATIONS of oil sands and discussions relative to them often recall to mind an experience with a water well driller. Reports were heard that the water well this driller was drilling was showing oil and a trip to the well for investigation was decided upon. On arrival at the well the driller stated that they were getting fine cuts from the formation, which sounded very promising. However, on enquiring further as to the exact nature of this fine cut, the driller stated that the blue shale when cut with a knife had a very smooth and slick surface. This test, to the driller, meant a fine cut and an indication of oil. A hasty departure was made from the well. It is not known whether the water well driller is still picking out pieces of shale and dulling his knife on them in an effort to find an oil field.

PECULIAR as it may seem oil sands which give the best evidence of the presence of oil are often the least desirable. Tar sands or heavy black oil sands give ample evidence of the presence of oil but from a production standpoint are often unsatisfactory due to their low yield and low gravity. On the other hand oil sands in which no oil can be seen may yield a light oil production of great volume and under considerable pressure. Under the ether or acetone test these sands may show only slight indications of oil due to the high gravity of the oil.

It is essential when drilling a prospect well that a thorough inspection should be made of all sands cored and the drilling operations carefully watched. Preconceived ideas as to the nature of the field which is being drilled for should not be formed as gas fields have been found in areas where only heavy gravity oil fields had previously been obtained, light gravity oil fields have been found in areas of heavy gravity oil fields and vice versa. For this reason it is necessary to be on the lookout for anything in the way of an oil or gas showing.

A thorough knowledge of all these various factors with a great amount of practical experience is necessary if the field men are to obtain the best results in the development operations.

Designation of Sand

In the early days of the oil industry oil sands were commonly referred to as oil sand, rich oil sand and poor oil sand. Ordinarily no other designation was made unless the sand appeared to be especially coarse or pebbly when it was so noted. In the early days in California the fields were of heavier gravity crude, so that an inspection could easily be made by simply looking at the formation sample. The desire for more detailed information relative to the oil zones, the advent of the core barrel, the coming into the industry of trained technical men, and the discovery of oil fields of high gravity and with new and different characteristics has changed to a great extent the logging of the oil sands. Some of the terms now used in the effort to more accurately describe these sands are as follows:

Fine grained sand
Medium grained sand
Coarse grained sand

The words loose, hard, compact, shaley, pebbly, etc., are inserted in the above description as the case warrants with such further detail as, very, slightly, etc. Sometimes the color of the sand such as gray, green, brown, or black, is included. Thus one may have a very hard fine grained slightly shaley grayish green sand and so on.

After the above description the saturation of the sand is stated. The Saturation is noted as follows:

Group A.—Poor saturation.
2. Fair saturation.
3. Good saturation or well saturated.

Group B.—1. Slight or faint ether cut.
2. Fair ether cut.
3. Good ether cut.

Group C.—1. Slight or faint acetone cut.
2. Fair acetone cut.
3. Good acetone cut.

The terms in Group A are used in referring to oil sands of heavier gravity running up to around 30° Baume. To determine the saturation it is unnecessary to cut the oil sand with any fluid as the oil is of such a dark color ordinarily as to be readily visible to the eye. It has been observed that such sands are sometimes cut with fluid but this only confirms in a poor way what should have been previously more satisfactorily discovered by inspecting the sand with the eyes. In sands of such gravity the amount of saturation and whether or not it appears to be a live or dead oil can be much more satisfactorily determined by visual observation without the aid of any cutting fluid.

The terms in Group B are used in referring to oil sands ranging in gravity from about 30° to 50° Baume gravity. Sometimes in these sands, especially those of the lighter gravity, the amount or presence of any oil at all is in doubt until the fluid cut is made. In order to obtain the same relative cut to be of value for comparative purposes it is essential that the same given amount of fluid be added to the same given amount of sand each time. In the field this is done by filling the test bottles to the same level each time with sand and then adding fluid to the same predetermined point. The oil washed out of the sand and into solution gives the fluid, due to its asphalt content, a brown to slight amber color, depending on the amount of oil in the sand and the gravity and character of the oil. The oil of heavier gravity tends to give a deeper color. In this connection there is sometimes a question of saturation in testing some sands. A slight amount of heavier gravity

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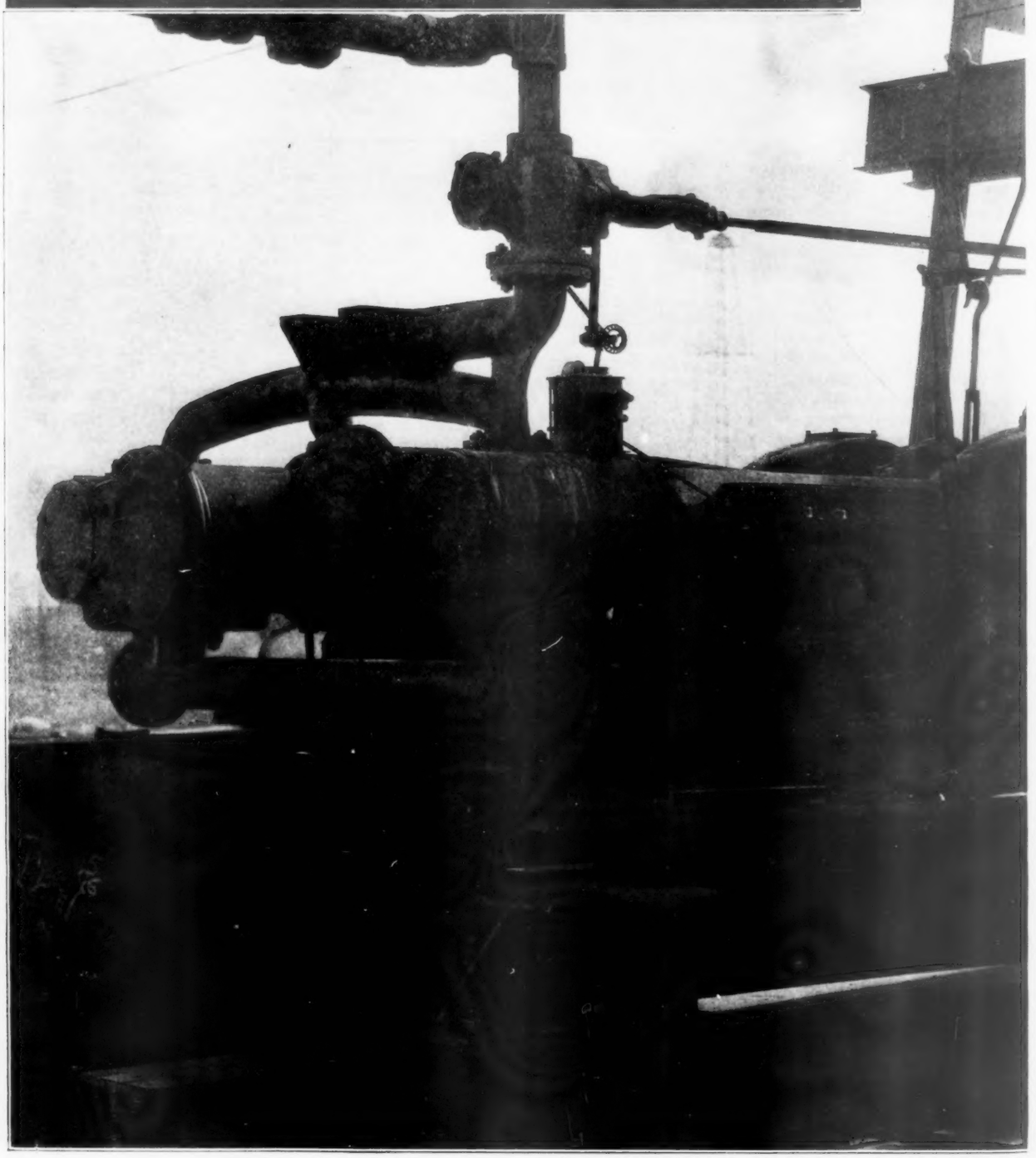

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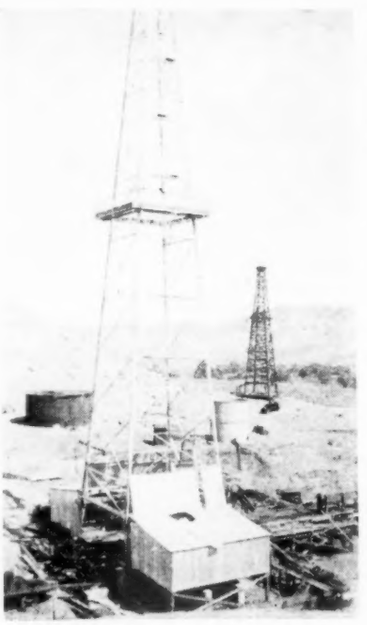
Kettleman Hills, California. Milham Exploration Company's Elliott 1, *discovery well, with Standard Oil Company and Continental Oil Company offsets in the foreground*

oil will give about the same colored cut as larger amount of lighter gravity oil. Therefore the question sometimes arises in light gravity fields as to whether a slight amber cut is due to the high gravity of the oil with the consequent possibility of the sand being well saturated or whether the sand is poorly saturated with a heavier gravity oil. Tetrachloride or chloroform is sometimes used instead of ether and gives about the same result.

The terms in Group C are used in referring to oil sands ranging in gravities above 50° Baume gravity. Often these sands do not appear to carry any oil and it is only by this delicate test that its presence can be detected. The same general procedure should be followed out as noted in Group B except that the test is carried further. After adding the fluid and permitting the sand to settle following a thorough shaking, the clear liquid is poured off through a filter into another bottle. A filter should be used in order to remove any very fine material which may be held in suspension in the liquid. To this filtered fluid an equal amount of water is usually added. If oil is present a slightly cloudy to milky appearance is formed throughout the liquid. The saturation of the sand is assumed to range according to the degree of cloudiness. However, the question raised under Group B as to heavier or light oils would also pertain to this test. It is very essential in performing this test that everything be kept clean of any contamination with foreign oil, otherwise a false result will be obtained. A very small quantity of foreign heavy oil would result in a very splendid test, whereas, without this contamination the sand might test but slightly or not at all.

As acetone has only recently come into common use in testing oil sands in the fields, a word might be said concerning it. It is a colorless fluid and volatile. Oil is readily dissolved in it. In adding the acetone to the sand sample the oil is dissolved in the fluid. With the addition of water the oil is thrown out of solution in the resulting mixture and due to forming minute globules in the fluid gives a cloudy or milky appearance. It has been observed on standing that in some cases small bodies of oil have formed in the fluid. This result was no doubt obtained by the joining of numerous minute globules. When such instances have occurred it has been assumed that the sand tested was better saturated than those sands not given this further result.



The old and the new. Advances in the industry often results in tests adjacent to old failures. This shows Associated Oil Company's Mitchell 1 *and Marland Oil Company's Mitchell* 1 *(in distance), the latter abandoned, at Jacaoitos Dome, south of Coalinga, California*

There has been some dissatisfaction expressed as to the value of the acetone cut. The cuts obtained in some cases when drilling through a known oil or saturated gas zone have been so faint that the question has been raised as to what value such a cut would be in drilling a prospect well and what consideration should be given to it. Also brown shale apparently barren of oil is claimed to give an acetone cut in some cases. At all events acetone is the best test known to date for light gravity oil or saturated gas sands and as such must be used.

In making any of these fluid tests —ether, acetone, etc.—it is essential that the sand be broken down to a loose condition before testing if it is not already in this condition. This is necessary in order that the fluid may freely permeate the sand body and come in contact with the oil around all the sand particles. Where the sand is rather hard it may be necessary to grind it in a hard mortar.

Odor

The question of odor does not enter into the situation when examining heavy oil sands, as visual examination gives the needed information.

However, in examining light oil

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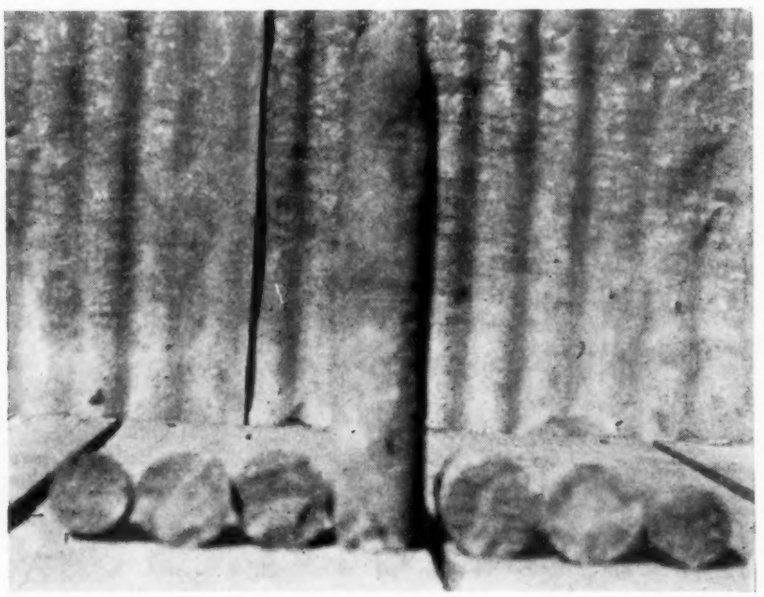
sands, where very little can be seen the question of odor is important. A light oil sand with a strong kerosene or gasoline odor naturally leads one to believe that it holds greater promise than when such indications are lacking.

Porosity

Porosity of an oil sand is important as it determines the amount of oil that can be held in the sand strata and the effective drainage area due to the freedom of movement or lack of it of the oil toward the well. The greater the amount of shale, clay, or siliceous cementing material in a sand, the less favorably it is regarded due to the filling of the voids in the sand and thereby leaving less room for the oil or gas. Such a sand may appear to be well saturated but the lack of void space and freedom of movement of the oil in such a formation removes it from the most favorable consideration.



Kettleman Hills Field, California. Hard fine grained gray sand, acetone cut—from the oil zone

Fine sands of even grain will contain the same amount of void space as this kind of a coarse sand although they may not appear so. Heavy oil with little gas pressure will not, of course, migrate through fine sands with the same freedom of movement as light oil under the same gas pressure. The heavy oil has more frictional resistance due to its greater viscosity.

A coarse sand of even grain offers the best reservoir to drain from under all conditions, as the voids are larger, permitting a more unrestricted flow due to less frictional resistance. A coarse sand may not be as favorable on close inspection as the first casual inspection would indicate. The tendency is to note only the larger grains at first. Close inspection may show that it actually grades down from a coarse sand to a fine sand. In such a case the void space is reduced due to the tendency of the small particles to fill up the voids between the larger particles. If there also exists a certain amount of shale, clay or siliceous cementing material, the void space will be much less than at first supposed.

Gas Indications

The presence of gas in the formation is detected sometimes when extracting the core from the barrel or in the circulation with rotary tools and in the bailer with cable tools. Gas showings observed when coring or drilling oil sands naturally lead one to believe that the sand is more promising. Gas may show itself in the core barrel by blowing some of the core out when extracting it from the barrel or by burning when a light is held at the end of the barrel. Sometimes the gas showings are so strong as to give ample evidence of their presence. Oftentimes, however, the only indications are bubbles, foaming, or a loss of weight in the mud-laden fluid. Loss of weight in the mud-laden fluid may be due to water from a water sand thinning up the mud-laden fluid so that this must be carefully checked on. In cable tool holes the gas may show in the bailings by bubbles and foaming or by throwing some of the fluid out of the bailer when brought to the surface. Such indications are important to note as the sand may be a gas sand without any indications of oil. The sand is therefore ordinarily considered as less likely to contain water. The gas showings may be of great value in determining the amount of formation to be included in the oil zone when the well is completed. This would be especially true in an unproven or semi-proven area.

The gas showings obtained will be controlled to some extent by the weight of the mud-laden fluid (or water) in the hole and, obviously, with the same weight of mud-laden fluid per cubic foot the more effective will be the sealing off of gas in the deeper holes due to the greater pressure on the formation drilled through. It has been observed in fields of known high gas pressure and volume that often meager gas showings are noted when drilling through the formation containing the gas due to the depth of the hole and the effective weight of a mud-laden fluid column. Thus it is found that often the evidence of gas obtained at the surface in a deep well with known high pressure sand will not be any greater than in a shallower well in a known low pressure sand. The weight of the mud-laden fluid column is therefore something to bear constantly in mind when trying to judge the importance of gas showings in wells.

Sometimes on prospect wells a simple gas trap is installed at the point of discharge into the circulation ditch. This is done by taking a few feet of larger sized casing and letting the fluid discharge into it before reaching the ditch. By the use of baffle plates the gas is released and rises to the top of the casing where it can be drawn off through a small opening. This trap can be made either with the pipe set on end with the top closed except for the small opening or with the pipe lengthwise as desired. This plan gives a more accurate gauge as to the amount of the gas indications than by simply observing the indications in the circulation. Also it permits the drawing off of samples of gas into bottles for the purpose of testing and analysis. In view of its simplicity it is unusual that such a plan is not oftener used where conditions warrant as the analysis

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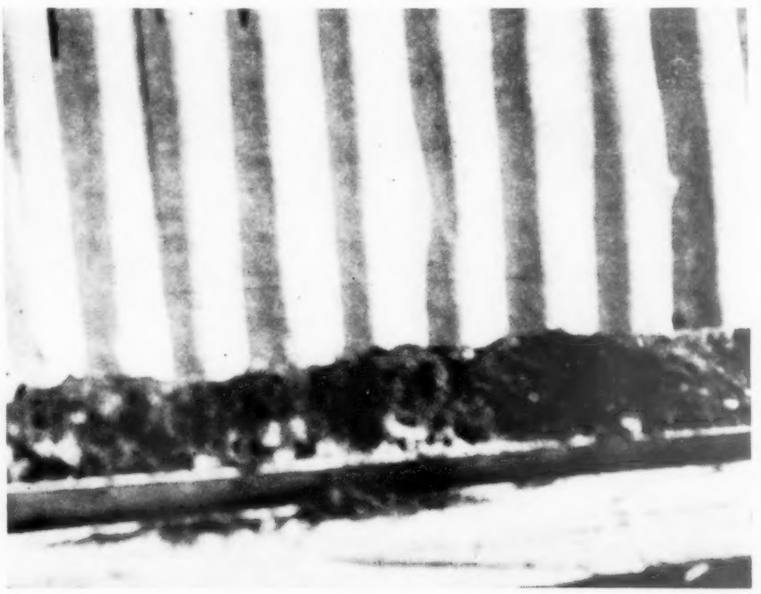
of the gas may give an important clue as to the oil possibilities of the area.

A word might be said as to detecting gas in sand by odor where there are no other indications to go by. Such a sand would contain a dry gas as sand containing a wet or saturated gas would respond and give a definite indication of oil on giving it the acetone test. It would appear to be unwise to reach definite conclusions as to a sand containing dry gas by such a test, as the odor may be due to the natural smell of the formation or some other cause. Of course where a dry gas sand in an area has peculiar characteristics, such as a sulphur odor or some like distinctive characteristic, additional evidence is had to perhaps warrant reaching more definite conclusions. It has been observed that cores slightly burnt during the coring operation have an odor which some persons have considered a gas odor. Any such conclusions on cores of this kind are highly misleading and only tend to confirm the fact that cores and other samples from wells are best judged by men who have had the proper amount of experience.

Water Indications

In connection with the examination of oil sands the possible presence of water is always kept in mind and any such indications noted as it has an important bearing on the amount of formation to be included in the produced oil zone. Barren sands are not often found in oil zones and such sands must be suspected as possible water sands until proved otherwise. Also oil sands with sand streaks showing no oil may carry water in the part showing no oil.



Kern Front Field, California. Loose coarse grained sand, well saturated with heavy oil

In some low pressure, and for that matter high pressure areas, it has been found that some gray sands that are slightly shaly or hard, due to siliceous cementing material, are free of water. Also loose clean gray sands are infrequently found free of water, which may be accounted for by the nature of the deposition, that is, gray sands grading into shale or by being pinched in by overlapping shale beds. Tasting the gray sands sometimes will furnish some clue as water heavily charged with salt water will leave some deposit on the sand grains. Also on standing sands containing salt water may have a salty brine form on the outside of the core.

A thorough knowledge of the general underground water conditions as far as such can be obtained is necessary in judging the possible consequence of including barren sands in the oil zone. Water sands of high head and large volume will naturally preclude any successful test of an oil zone if included in the zone to be tested. On the other hand water sands of low head and small volume are sometimes included due to a desire not to exclude oil formation from the zone to be produced. It has been found in some high pressure areas that certain sands in or near the oil zone are not dangerous and although not containing oil or gas as far as can be determined, are barren or contain a limited amount of water of such small volume as not to be objectionable in ordinary production operations.

Operators drilling in new flush fields often form very erroneous opinions regarding certain sands suspected of carrying water. Wells brought in produce only relatively small quantities of water, say 50 to 100 barrels per day, which leads them to believe that if the sand is a water sand it is of no consequence due to the fact that it carries only a small volume. It should be borne in mind that water of fairly large volume and head may be held back somewhat in wells having a high head of oil or in flowing wells of high gas pressure. As the field is reduced to the pumping stage and the oil level drops the water sand has a better chance to assert itself. As the pressure against the water sand decreases it is permitted to discharge increasing amounts of water into the well. With the oil production thus decreasing and hastened somewhat by the water coming into the hole, the water cut on the production increases at an alarming rate. A situation thought to be of no consequence at first later looms as a major catastrophe. The production cost rises as the well produces less oil. In the pumping stage the necessity of pumping this greater amount of water along with the oil increases materially the production cost. Also the necessity of a fast and long stroke on the surface pumping equipment prevents the more economical system of hooking the wells up to a central pumping plant. The volume and head of the water will determine to what extent the well will be flooded. A point may be reached where the water head is greater than the oil head and then the oil is effectively held back in the oil sand by the water, thus reducing materially the oil production and the ultimate possible recovery. Expensive corrective work to shut off the water is necessary to relieve such a situation. Such heavy outlays in the face of the reduced earnings may be hard to make but are necessary if more disasterous results are to be averted. The picture painted above may seem somewhat enlarged but actual happenings in various fields bear out these conclusions. The fact of the matter is that more careful thought and consideration and experimental work could be well spent in developing new fields which would materially reduce the problems and expense of handling the wells later on when the flush and boom days are over.

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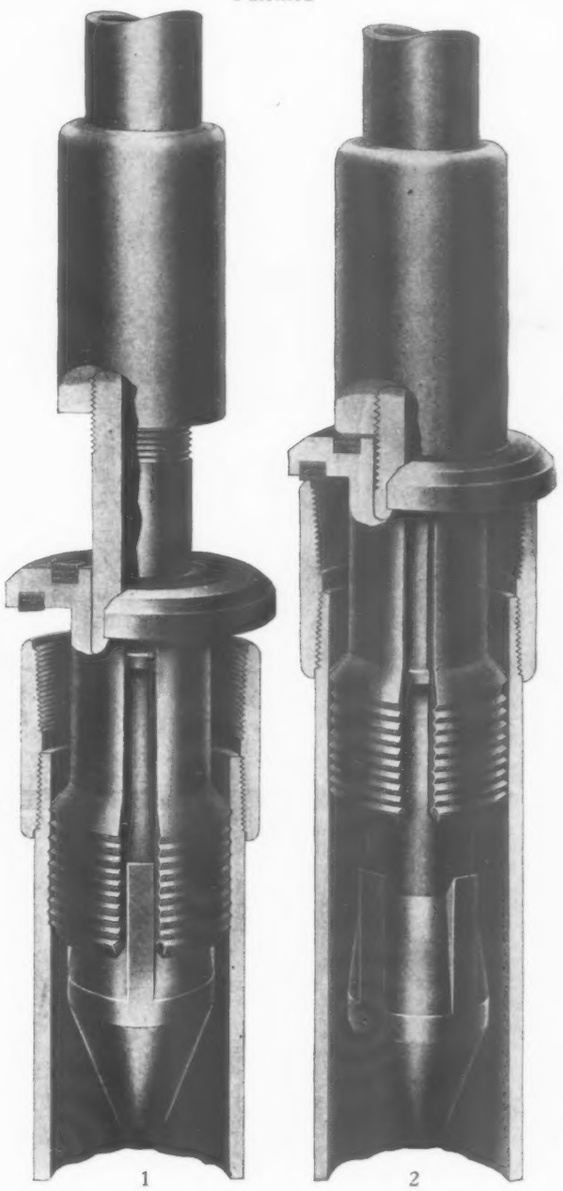

Cut No. 1 above shows spear in normal pulling position. Cut No. 2 shows how tapered mandrel of spear may be dropped down to register releasing keys under slips. A pull up then disengages the slips from the fish.

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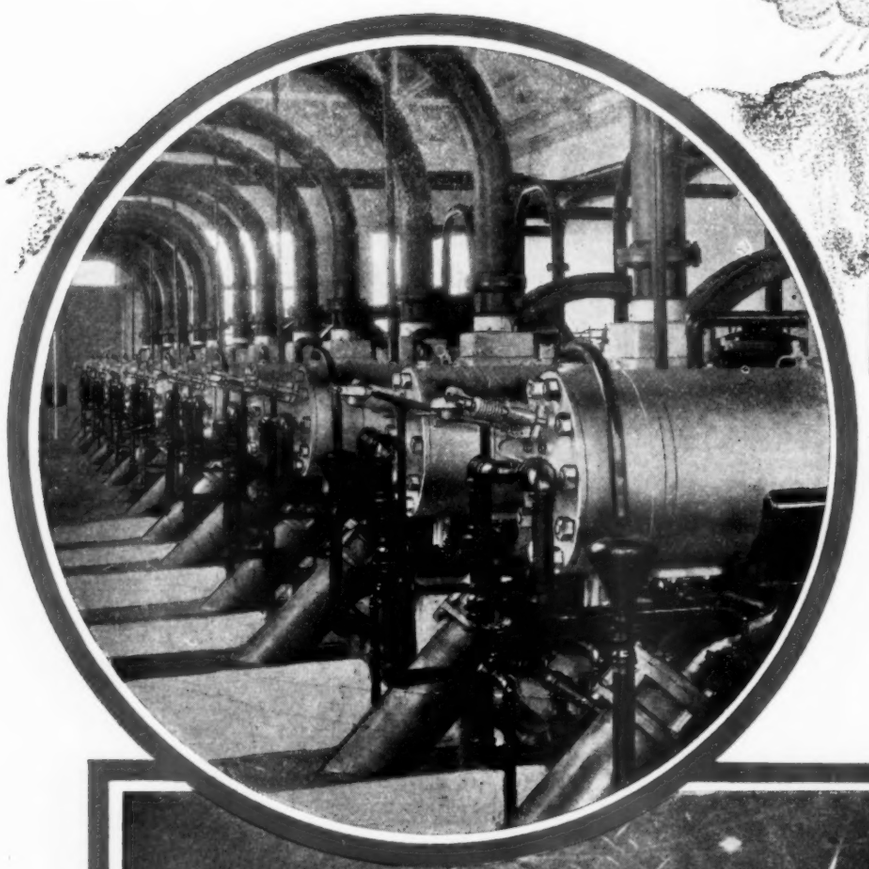

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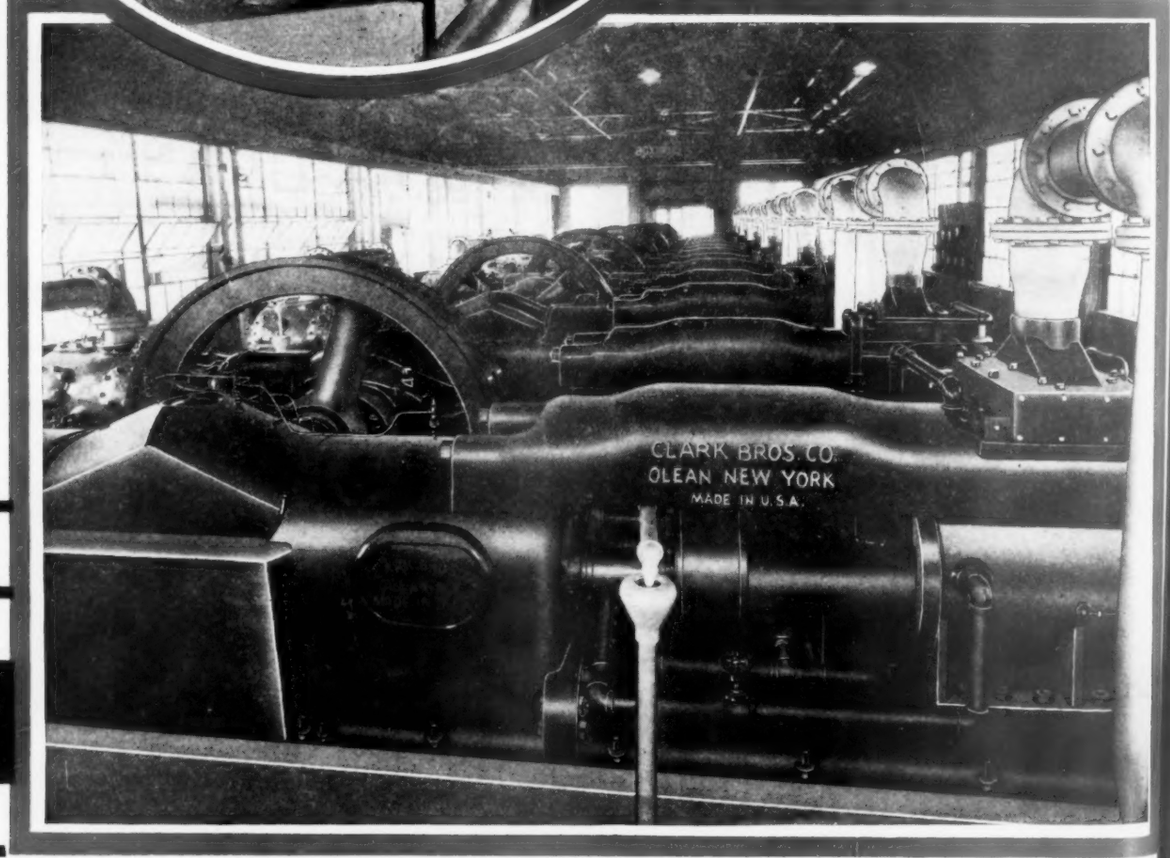
400 H. P. Clark Double Acting Super 2s in a Louisiana vapor recovery plant.



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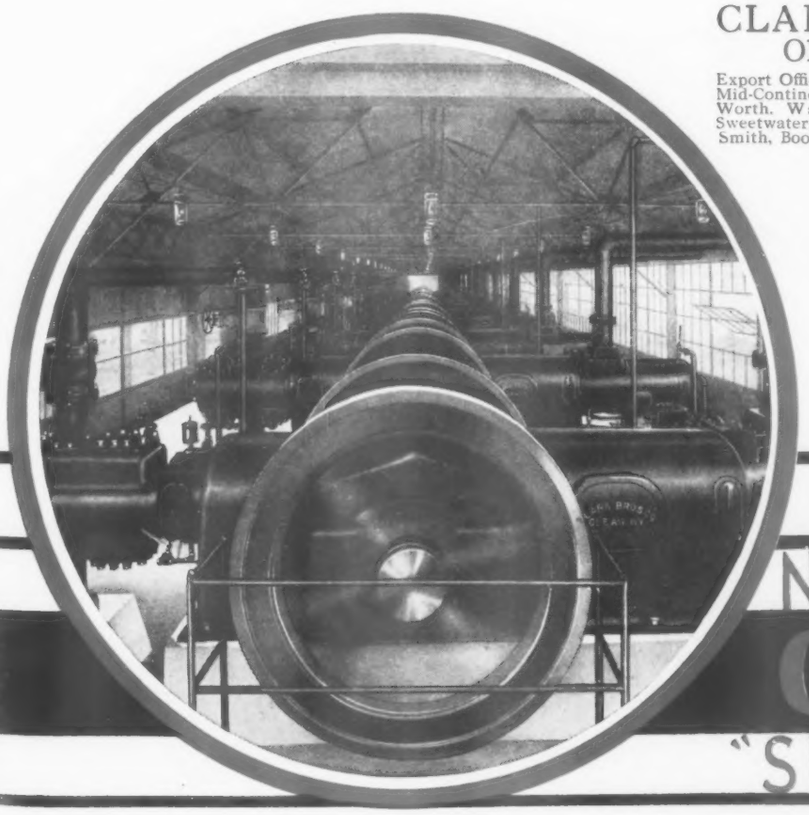

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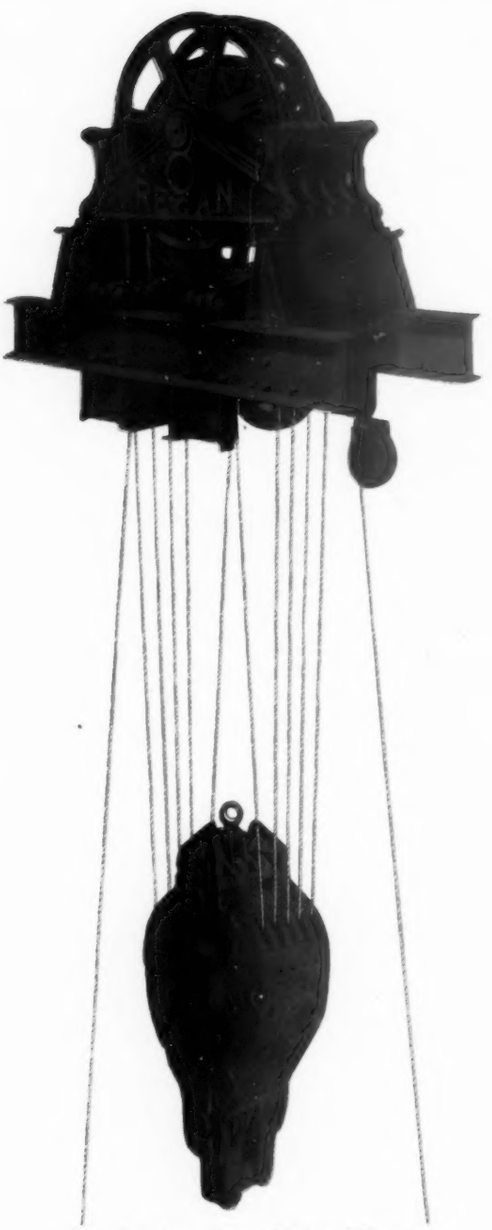

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Markets--Production--Crude Prices

H. J. STRUTH, *Staff Economist, Houston, Texas*

Refinery Curtailment Forcing Lower Crude Output

A FURTHER decline in daily average crude production last week, amounting to 36,650 barrels, brought the daily average down to a new low figure on the decline of 2,229,250 barrels. Practically all of the decline recorded last week was due to further curtailment of production in Oklahoma, where the daily average showed a net decline of 35,050 barrels. Curtailment of refinery still runs in the Mid-Continent, as well as in practically all refining districts of the United States has necessitated further drastic curtailment of crude production.

Withdrawal of Prairie Oil & Gas Company as a purchaser of Mid-Continent crude, effective January 1, 1931, is expected to bring added difficulties upon operators in Oklahoma, Kansas and North Texas. Actual pipe line deliveries of Prairie Pipe Line Company during November amounted to a daily average of only slightly more than 88,000 barrels, compared with a daily average during November, 1929, of more than 206,000 barrels. Deliveries of this company have steadily declined throughout the present year, from a daily average last January of nearly 202,000 barrels, to a probable maximum for December of only about 68,000 barrels. This situation, in the face of storage held by the Prairie Oil & Gas Company of about 60,000,000 barrels, is sufficient reason for withdrawal of that company as an active purchaser of crude oil.

The sincerity with which producers and refiners, alike, are tackling the over-production problem indicates that the industry is at last well on its way toward the goal of economic stability. While present conditions are decidedly uncomfortable for a majority within the industry, it is at least comforting to realize that constructive progress is being made in the direction of equilibrium that cannot fail in due course to result in better times for all concerned. There is one thing certain in the present situation and that is that production and refinery runs cannot continue indefinitely to recede from their present levels without necessitating substantial withdrawals of both crude and refined products from storage. It is therefore apparent that the present downward course of production and refinery runs must culminate early in the spring when buying of crude and refined products will be resumed on a much larger scale than has been indicated during the present year. It is too early to incite optimism over the demand outlook for next year, but it is believed that subsequent studies will reveal a greatly improved outlook for next year.

Oklahoma has been forced to curtail crude production to the extent that the state total is now 93,100 barrels below the daily allowable figure of 545,000 barrels. On the other hand, California operators are having difficulty in bringing their production down to the allowable figure of 540,000 barrels. Last week's results show that this state is producing 55,400 barrels daily above the allowable figure, and yet there is talk of further reducing the maximum allowable figure to 500,000 barrels. It seems that the most important task before the industry in California lies in the direction of curtailment toward the 540,000-barrel figure before any extra effort is made to set up a lower basis for production. Failure to reduce output by the amount indicated as excessive in California has severely complicated the marketing situation to the extent that a price reduction appears imminent. Present indications dictate that a maximum production of 540,000 barrels in California would suffice to bring about substantial reductions in stored oil there. At any rate, to maintain production at the present level in California is to invite disaster in the long run and the certainty that posted prices cannot be much longer maintained at their present levels.

Texas production showed practically little change last week, the indicated excess output for the state remaining at somewhat more than 53,000 barrels daily. There are numerous difficulties to be overcome in several major areas of Texas that have somewhat retarded action toward a lower daily output. Various field committees have, however, organized their forces to the extent that it is believed that succeeding weeks will begin to show results in the form of materially lower output.

Following are the more important changes in daily average crude production last week:

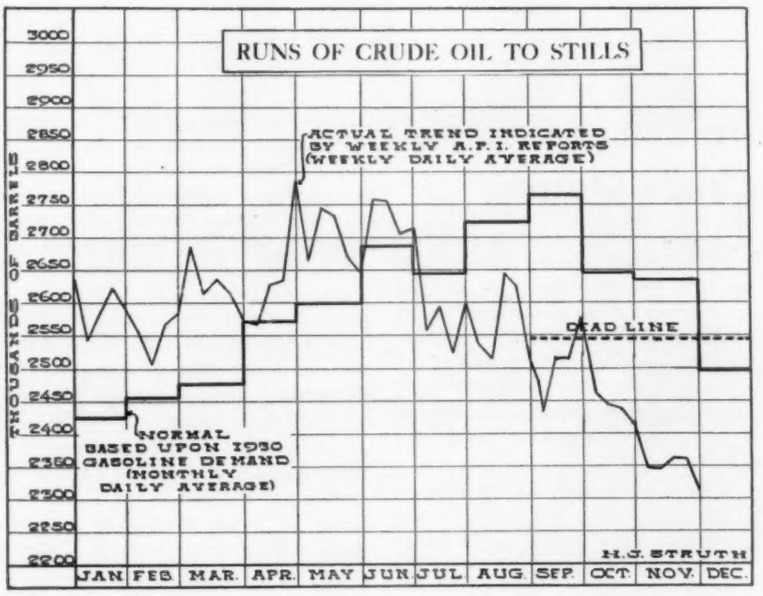
		Barrels
Gray County	Increase	1,100
Electra	Decrease	1,400
North Young	Increase	1,150
Callahan	Decrease	1,200
Crane-Upton	Increase	2,450
Howard	Decrease	3,400
Yates	Decrease	3,250
Darst Creek	Increase	8,950
Barbers Hill	Increase	1,550
Earlsboro	Decrease	2,700
Konowa	Decrease	1,950
North Okmulgee	Decrease	1,300
Oklahoma City	Decrease	5,500
Osage	Decrease	1,300
St. Louis	Decrease	1,500
West Asher	Decrease	4,850
Playa del Rey	Increase	2,000
Greenwood	Decrease	1,050
Sedgwick	Decrease	1,050
Voshell	Increase	6,750
Salt Creek	Increase	2,800
Hobbs High	Decrease	6,000

Refinery Runs Continue Downward

Runs of crude to stills at United States refineries during the week ending December 6 aggregated 15,311,000 barrels, a daily average of about 2,187,000 barrels. This represents a further decline for the week of 59,000 barrels daily and represents a total decline from the peak of April 26 amounting to 513,000 barrels a day. On a Bureau of Mines basis, last week's still runs amounted to a daily average of about 2,253,000 barrels, approximately 60,000 barrels a day below the average for the preceding week.

Stocks of gasoline as of December 6, amounted to 37,-

MARKET SECTION



742,000 barrels, a gain over the preceding week of 455,000 barrels. Despite the fact that runs have been curtailed during the past four weeks to the extent of about 109,000 barrels a day, stocks of gasoline have shown an almost uninterrupted upward trend during that period. Analysis of gasoline stocks, however, shows that a considerable part of the reported gain is attributed directly to California refiners, where the rate of production continues in excess of market requirements. Occasional gains reported in other refinery districts have been mostly due to unfavorable weather conditions that have materially reduced normal gasoline sales.

Try Lower Allowable Figure in Effort To Lower California Output

A much lower allowable, possibly 500,000 barrels, probably will be posted as a new mark for California operators to strive for. The curtailment committees are not satisfied with the results of the present allowable of 540,000 barrels and a production of 600,000 barrels and are concerned with a reduction of the base allowable to bring the actual output to a lower figure. Reduction of the allowable to a much smaller total will not necessarily bring the actual average to such a figure, but it should reduce the

CRUDE RUNS TO STILLS, GASOLINE AND GAS AND FUEL OIL STOCKS, WEEK ENDING NOVEMBER 29, 1930

(Figures in barrels of 42 gallons)

District—	Potential Daily Capacity	Potential Capacity Reporting Total	Potential Capacity Reporting Per Cent	Crude Runs to Stills Total	Crude Runs to Stills Daily Average	Crude Runs to Stills Per Cent Operated	Gasoline Stocks	Gas & Fuel Oil Stocks
East Coast	612,700	612,700	100.0	3,172,000	453,100	74.0	5,563,000	11,182,000
Appalachian	141,300	132,500	93.8	520,000	74,300	56.1	778,000	1,025,000
Indiana, Illinois, Kentucky	390,800	381,000	97.5	1,824,000	260,600	68.4	4,255,000	3,978,000
Oklahoma, Kansas, Missouri	461,100	412,200	89.4	1,756,000	250,900	60.9	2,325,000	4,583,000
Texas	809,000	743,500	91.9	3,348,000	478,300	64.3	6,292,000	11,017,000
Louisiana-Arkansas	266,600	262,000	98.3	1,027,000	146,700	56.0	1,295,000	2,261,000
Rocky Mountain	150,100	139,700	93.1	303,000	43,300	31.0	1,517,000	1,029,000
California	898,500	887,600	98.8	3,774,000	539,100	60.7	15,262,000	103,793,000
Total Week November 29	3,730,100	3,571,200	95.7	15,724,000	2,246,300	62.9	37,287,000	138,868,000
Total Week November 22	3,730,100	3,571,200	95.7	16,036,000	2,290,800	64.1	36,532,000	139,254,000
The total U. S. figures for last year, shown immediately below, are not comparable with this week's totals because of difference in percentage capacity reporting.								
Total November 30, 1929	3,678,700	3,498,400	95.1	17,751,000	2,535,800	72.5	36,138,000	*144,192,000
The Texas and Louisiana Gulf Coastal Figures Shown Below are Included above in the Totals of Their Respective Districts.								
Texas Gulf Coast	529,500	529,500	100.0	2,480,000	354,300	66.9	5,030,000	8,290,000
Louisiana Gulf Coast	147,500	147,500	100.0	688,000	98,300	66.6	1,011,000	1,291,000

* Final revised.

MARKET SECTION

HOW LAST WEEK'S DAILY AVERAGE PRODUCTION COMPARES WITH NECESSARY AND NORMAL QUOTA LIMIT

	Necessary Daily Average 4th Quarter 1930	Quota Limit Prescribed to Correct Previous Excesses	Actual Daily Average Week Ending December 6, 1930	Excess
Arkansas	59,518	59,518	51,400	—8,118
California	654,034	545,000	600,400	55,400
Kansas	115,407	105,554	105,100	—454
Louisiana	57,704	57,704	72,150	14,446
Oklahoma	653,252	545,000	451,900	—93,100
Texas	767,167	680,238	734,000	53,762
Balance of U. S.	230,000	230,000	214,300	—15,700
Total	2,537,082	2,233,014	2,229,250	—3,764

output to some intermediate level between present production and the future lower allowable. California's potential is undoubtedly less than the total recognized but the fact that there is too much oil is of more importance than the amount the state could make if turned loose. The gasoline market is weaker and will undergo a radical price change unless some of the producing and marketing difficulties are overcome. Refinable oil is plentiful and the increase in cracking has created an abundance of spot gasoline.

Oklahoma Proration Opponents May Take Question Before Legislature

The crude oil market situation in Oklahoma now has to be viewed in the light of proration. So far as the price of oil is concerned the posted schedules of major buyers are not a true index, for the price of surplus oil finally comes down to what can be had for the oil. There are several instances of oil going to refineries at prices below posted schedules. Slackening demand for oil as a whole over the winter and the withdrawal of Prairie Oil & Gas Company as a purchaser January 1 have placed a representative amount of Oklahoma crude oil in the division of being worth whatever a buyer will give and the buyers of this class are limited to whatever delivery services are available.

The prospect for the proration program now has a political background to discolor it. Every indication is that the forthcoming session of the Oklahoma legislature early in 1931 will be the occasion for several attacks on the statutes, under which proration orders have been issued.

In a lengthy statement to governor-elect W. H. Murray last week, W. R. Ramsey of Oklahoma City made a plea that the next chief executive of Oklahoma father a plan of relief from proration. After reciting the history of proration and setting out what he considered unfair in its enforcement, he made this written plea:

"I recommend that something be done through the legislature of this state at this next session, to determine the power of the Corporation Commission and definitely define what their powers are and to what limit they should go. If it can not be done this way, I suggest that we appeal to the people through the power granted us by the initiative and referendum given by the state constitution."

Proration has never had the universal approval of Oklahoma crude oil producers. The ranks of those dissatisfied has grown steadily since crude oil price schedules were reduced in October. While no public promises were given, producers gained the hope early this year that adherence to the restrictions imposed by the Oklahoma Corporation

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS
(Barrels of 42 gallons)

	Week Ended Nov. 29	Week Ended Nov. 22
AT ATLANTIC COAST PORTS—		
Baltimore	143,000	232,000
Boston	813,000	107,000
New York	679,000	1,194,000
Philadelphia	315,000	275,000
Others	162,000	230,000
Total	2,112,000	2,038,000
Daily Average	301,714	291,143
AT GULF COAST PORTS—		
Galveston District	.....	17,000
New Orleans & Baton Rouge	66,000	.....
Port Arthur & Sabine District	.....	.....
Tampa	53,000	.....
Total	119,000	17,000
Daily Average	17,000	2,428
AT ALL UNITED STATES PORTS—		
Total	2,231,000	2,055,000
Daily Average	318,714	293,571
Daily Average Four Weeks Ended	264,500	247,107
Distribution of Total Imports is as follows:		
Crude	994,000	1,197,000
Gasoline	137,000	274,000
Gas Oil	9,000	66,000
Fuel Oil	1,091,000	518,000
Total	2,231,000	2,055,000

CALIFORNIA OIL RECEIPTS AT ATLANTIC AND GULF COAST PORTS
(Barrels of 42 gallons)

	Week Ended Nov. 29	Week Ended Nov. 22
AT ATLANTIC COAST PORTS—		
Baltimore	.....	55,000
Boston	.....	52,000
New York	188,000	332,000
Philadelphia	232,000	104,000
Others	.....	137,000
Total	420,000	680,000
Daily Average	60,000	97,143
AT GULF COAST PORTS—		
Total	.....	* 72,000
Daily Average	.....	10,285
AT ATLANTIC AND GULF COAST PORTS—		
Total	420,000	752,000
Daily Average	60,000	107,428
Daily Average Four Weeks Ended	76,536	66,036
Distribution of total California oil receipts is as follows:		
Gasoline	347,000	* 544,000
Gas Oil	.....	156,000
Fuel Oil	73,000	52,000
Total	420,000	752,000

*Revised.

MARKET SECTION

United States Daily Average Production

1930	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Av.	United States Total
January	671,050	111,700	672,650	178,300	37,650	58,500	142,250	73,850	688,850	2,634,800	81,574,650
February	631,900	111,400	654,600	199,950	39,450	58,400	135,050	74,850	746,550	2,652,150	74,280,200
March	622,650	115,500	644,400	206,000	41,600	58,600	132,700	73,600	649,000	2,544,050	78,865,400
April	657,050	122,200	640,950	206,800	42,100	57,800	138,700	75,950	625,700	2,576,250	77,018,100
May	663,300	131,000	662,350	203,900	39,900	53,800	137,150	82,500	623,700	2,597,700	80,529,600
June	665,550	133,600	668,300	210,500	40,300	56,900	135,750	84,600	598,000	2,593,500	77,806,900
July	594,750	121,600	652,350	209,400	40,550	55,400	137,200	98,350	610,450	2,520,050	78,121,200
August	558,850	115,650	646,400	206,600	41,500	55,100	128,550	106,000	611,250	2,470,900	76,597,600
September	558,900	116,550	606,550	200,750	40,150	53,550	121,400	110,650	604,900	2,413,400	72,402,205
October	542,100	114,850	609,500	194,850	41,500	52,800	121,750	104,000	590,800	2,372,150	73,536,350
November	492,700	111,400	579,300	190,150	44,000	52,000	116,300	102,000	601,200	2,289,050	68,675,800
December 6	451,900	105,100	571,950	190,050	44,150	51,400	112,700	101,600	600,400	2,229,250	15,604,750
Increase	.....	.....	650	.....	.....	.....	2,700	.....	500	.....	.....
Decrease	35,050	2,550	.....	900	50	500	.....	1,450	.....	36,650	256,550

TEXAS (Outside Gulf Coast)

PANHANDLE DISTRICT

	Dec. 6	Nov. 29
Carson County	6,350	5,600
Gray County	54,200	53,100
Hutchinson County	15,200	14,250
Wheeler County	600	400
Others	300	300
Total	76,650	73,650

NORTH TEXAS

Archer County	12,400	13,350
Burkburnett	7,350	7,600
Electra	9,600	11,000
Iowa Park-KMA	4,150	4,400
Montague and Cooke Counties	8,550	9,300
Wilbarger	16,850	16,950
North Young County	11,200	10,050
Others	1,650	1,750
Total	71,750	74,400

WEST CENTRAL TEXAS

Brown County	4,500	4,950
Callahan County	1,800	3,000
Coleman County	2,050	2,650
Eastland-Desdemona	4,350	4,950
Jack County	1,550	1,950
Palo Pinto County	350	450
Shackelford County	4,500	5,100
Stephens County	4,650	5,350
Throckmorton County	600	700
South Young County	3,200	3,350
Others	1,700	1,700
Total	29,250	34,100

WEST TEXAS

Crane-Upton Counties	37,500	35,050
Crockett County	1,950	1,900
Ector	7,450	7,950
Howard County	24,450	27,850
Jones County	1,350	1,400
Mitchell-Scurry Cos.	2,050	2,100
Pecos County	4,000	4,100
Reagan County	24,800	25,150
Winkler County	56,400	54,850
Yates	100,200	103,450
Others	6,000	6,400
Total	266,150	270,200

EAST CENTRAL TEXAS

Boggy Creek	2,600	2,100
Corsicana-Powell	5,300	5,250
Currie	300	300
Mexia	3,900	3,850
Nigger Creek	150	150
Richland	150	150
Van Zandt	27,700	27,500
Wortham	600	600
Others	200	200
Total	40,900	40,100

SOUTHWEST TEXAS

Chapman-Abbott	6,100	6,000
Dale	250	250
Darst Creek	38,600	29,650
Laredo District	14,750	14,750
Luling	9,650	9,500
Lytton Springs	700	700
Salt Flat	15,300	16,100
Somerset	1,300	1,300
Others	600	600
Total	87,250	78,850
T'tl Tex. (Outside Gulf Coast)	571,950	571,300

TEXAS GULF COAST

Barbers Hill	24,300	22,750
Batson	1,100	1,100
Big Creek	3,100	3,300
Blue Ridge	1,600	1,600
Boling	800	900
Damon Mound	700	700
Esperson	2,850	2,800
Fannett	600	550
Goose Creek	4,400	4,350
Hankamer	2,100	1,850
Hull	7,800	7,850
Humble	12,350	12,900
North Dayton	900	900
Orange	1,900	2,000
Orchard	2,000	2,200
Pettus	8,400	8,450
Pierce Junction	9,250	9,500
Port Neches	1,450	1,500
Raccoon Bend	8,700	8,750
Refugio	27,500	27,300
Saratoga	1,200	1,200
Somerville	1,500	1,550
Sour Lake	2,100	2,100
South Liberty	2,800	2,800
Spindle Top	13,600	13,600
Sugar Land	12,000	12,000
West Columbia	4,800	4,900
Others	2,250	2,200
Total	162,050	161,600
Texas Total	734,000	732,900

OKLAHOMA

Allen	12,250	12,250
Asher	800	900
Blackwell	2,200	2,350
Bowlegs	13,000	13,250
Braman	1,900	2,050
Bristow Slick	10,600	12,100
Burbank	13,000	13,650
Carr City	12,050	11,550
Cromwell	5,900	6,200
Cushing	12,050	12,100
Davenport	850	900
Duncan District	6,100	6,600
Earlsboro	13,950	16,650
East Earlsboro	17,050	16,800
East Little River	11,250	10,750
East Seminole	1,900	1,950
Fox	800	800
Garber	4,350	4,400
Graham	2,500	2,600
Healdton	10,000	10,000
Hewitt	5,300	5,400
Hubbard	1,000	1,050
Konowa	11,000	12,950
Little River	23,500	23,850
Logan County	3,200	3,150
Maud	2,500	3,000
Mission	4,350	7,050
North Okmulgee	8,000	9,300
Oklahoma City	87,300	92,800
Osage (outside Burbank)	23,150	24,450
Papoose	2,100	2,250
Pearson	450	500
St. Louis	20,050	21,550
Sasakwa	4,500	4,550
Scholem Alechem	10,000	9,200
Searight	5,500	6,250
Seminole	12,900	13,700
S. Earlsboro	7,950	8,650
South Okmulgee	5,200	6,000
Thomas	400	400
Tonkawa	3,800	4,050
West Asher	8,900	13,750
Wewoka	4,700	4,800
Yale Jennings	5,150	5,400
Others	38,500	45,050
Total	451,900	486,950

CALIFORNIA

Dominguez	10,000	10,000
Elwood-Goleta	35,000	35,300
Huntington Beach	27,200	27,000
Inglewood	15,300	15,500
Kettleman Hills	26,500	26,000
Long Beach	94,700	96,000
Midway-Sunset	59,000	59,000
Playa Del Rey	44,000	42,000
Santa Fe Springs	93,600	94,000
Seal Beach	17,800	17,700
Ventura Avenue	48,300	48,400
Others	129,000	129,000
Total	600,400	599,900

KANSAS

Augusta-Fox Bush	2,500	2,650
Churchill	2,950	3,400
Eldorado-Towanda	12,700	13,650
Florence-Covert	750	950
Greenwood County	15,950	17,000
Oxford	2,100	2,350
Peabody-Ebling	2,150	2,300
Rainbow Bend	950	1,000
Russell	2,800	2,800
Sedgewick	22,950	24,000
Voshell	13,300	6,550
Others	26,000	31,000
Total	105,100	107,650

NORTH LOUISIANA

	Dec. 6	Nov. 29
Caddo Heavy	2,850	2,800
Caddo Light	8,450	8,600
Carterville	2,150	2,250
Cotton Valley	1,850	1,850
DeSoto-Red River	2,750	2,800
Haynesville	5,200	5,250
Holly	950	900
Homer	3,350	3,350
Urania	5,300	5,300
Zwolle	9,650	9,400
Others	1,650	1,700
Totals North Louisiana	44,150	44,200

LOUISIANA GULF COAST

Bayou Boullion	100	150
East Hackberry	3,900	3,950
Edgerly	400	400
Evangeline	2,000	2,100
Hackberry	900	900
Lake Barre	2,100	2,200
Lockport	4,300	4,700
Port Barre	2,250	2,250
Sorrento	50	50
Sulphur Dome	2,300	2,900
Sweetlake	1,150	1,150
Vinton	5,300	5,400
White Castle	1,050	1,050
Others	2,200	2,150
Total Louisiana Gulf Coast	28,000	29,350
Louisiana Total	72,150	73,550

ARKANSAS

Champagnolle	3,400	3,450
El Dorado	3,900	3,900
Lisbon	900	900
Nevada	1,050	1,050
Smackover Heavy	35,350	35,700
Smackover Light	4,800	4,800
Stephens	900	900
Others	1,100	1,200
Total	51,400	51,900

MOUNTAIN STATES

WYOMING

Big Muddy	2,000	2,050
Elk Basin	800	700
Grass Creek	2,000	2,050
La Barge	1,950	1,450
Lance Creek	200	150
Lost Soldier	4,350	4,400
Oregon Basin	3,200	3,100
Rock River	2,150	2,150
Salt Creek	29,400	26,600
Others	3,600	3,650
Total	49,650	46,300

MONTANA

Cat Creek	1,100	1,150
Pondera	1,650	1,700
Sunburst	4,100	3,550
Others	50	50
Total	6,900	6,450

COLORADO

Florence	400	550
Fort Collins	1,150	1,150
Moffats (Craig)	950	1,150
Others	1,500	1,350
Total	4,000	4,200

NEW MEXICO

Artesia	750	750
Balance Lea Co.	7,400	6,600
Hobbs High	31,050	37,050
Hogback	450	450
Rattlesnake	1,100	1,000
Table Mesa	100	100
Eddy	200	150
Totals	41,050	46,100
Totals Mountain States	101,600	103,050

EASTERN STATES

(Including Ill., Ind., Ohio, W. Va., Pa., Ky., N. Y.)	104,000	101,000
Michigan	8,700	9,000
Total Eastern States	112,700	110,000

PRODUCTION SUMMARY

East of Rockies	1,527,250	1,562,950
Total U. S.	2,229,250	2,265,900

MARKET SECTION

Commission would assure sustained prices. When the price structure fell, proration lost many of its followers.

Now to add to the lower prices, there is the assurance that amounts of oil needed for refiners will not show improvement before next spring, while indications are that the amount of crude oil needed will be less in January and in February than it was in November and December.

Another element which is dissatisfied with proration has held that opinion from the first. These men never believed that proration would hold prices or that it would avoid disaster in the last analysis. They saw it as a method of getting an industry down an economic cliff by dangling at the end of a rope, instead of permitting it to take the full drop in one plunge. While they admitted that the decent might be less damaging in some instances, they contended and still contend, that proration has prolonged a condition which would have been more quickly righted by taking the plunge in one leap.

Out of the ranks of those who are disgusted with proration because it failed to give all they hoped for it and out of the ranks of those who never favored it, there are now sufficient numbers to bring the question into the political arena. It so happens that the political situation in Oklahoma is such that the opportunity is ripe for such a test.

The incoming governor is an advocate of the rights of the man of limited means. His election followed a campaign directed at the "independent" in each line of endeavor.

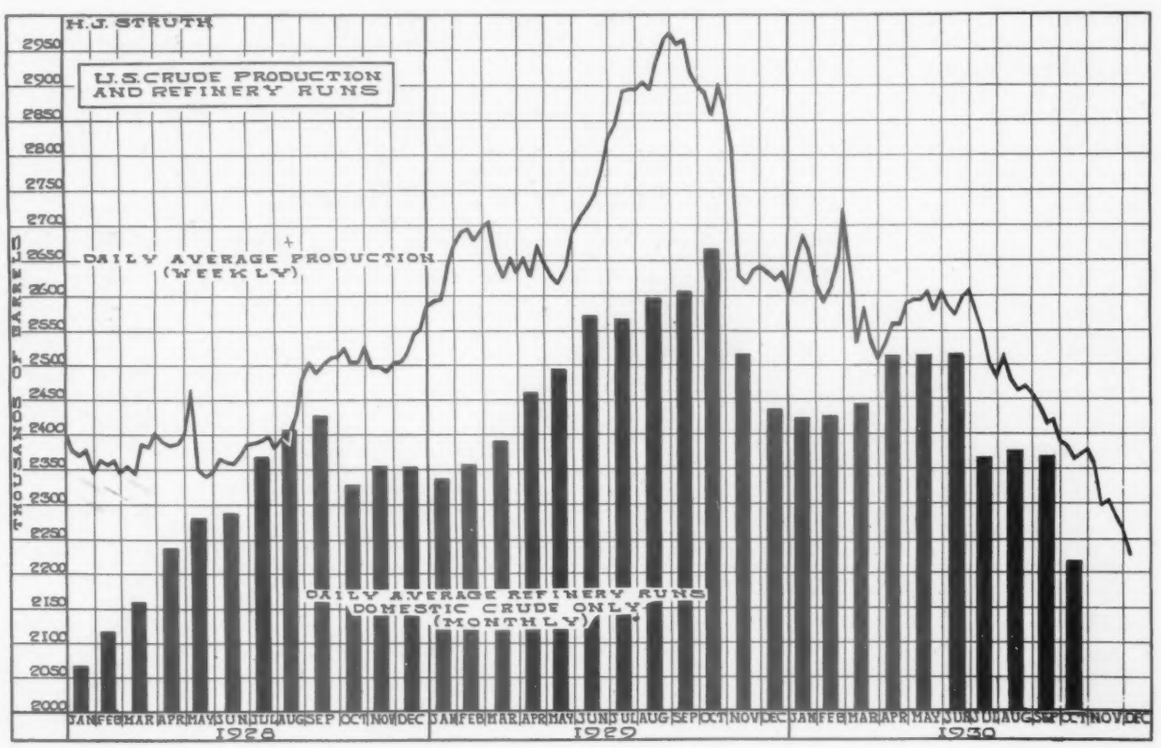
Now the opponents of proration are ready to point out that the element of the petroleum industry most seriously effected in the present situation is the independent producer. He has gone along in the proration scheme in the hope of selling his oil at a fair price. At last the price has gone below what these producers hoped to receive and finally there is prospect of losing any sort of market for a substantial part of production in Oklahoma.

This sort of attack on proration has spread beyond the ranks of those in the oil industry. Last week the board of directors of the Enid Chamber of Commerce passed a resolution, which asks that the present governor of the state end proration by executive action. This resolution was presented at an unemployed conference in Oklahoma City Monday.

The resolution was based on the contention that the governor could end proration by declining to give consent to it. The statute under which proration orders are enforced reads to the effect that conservation agents may be appointed "with the consent of the governor." So this body of business men would have the governor deny his consent to the appointment of agents to enforce conservation orders.

Three of the smaller producers in the Oklahoma City field, The Century Petroleum Company, Marco Oil & Royalty Company and Oils, Inc., gave notice last week that they would violate the orders of the Corporation Commission with regard to producing wells. These companies have a hearing December 17 before the federal district court to test the validity of the order and their notice was to the effect that they would operate their properties pending the determination of this court action.

Although it is too early to draw final conclusions, the way some of the larger oil concerns are shaping their affairs would indicate that they expect proration in Okla-



MARKET SECTION

Weekly Comparisons of Permits Granted for New Wells

	Week Ending December 6	Previous week	This week 1929	Total this Month	This month 1929	Total this year	Total this date last year	1929 year total
Arkansas	...	1	3	...	3	101	157	159
California	14	44	16	14	16	884	1,180	1,231
Louisiana	14	16	17	14	17	923	869	903
Kansas	8	10	10	8	10	919	1,032	1,079
Oklahoma	33	27	61	33	61	2,748	3,348	3,578
Texas	80	90	130	80	130	6,874	8,308	8,697
Total	149	188	237	149	237	12,449	14,894	15,647

homa to end shortly. All of this has connection with the network of rumors going the rounds of oil circles. They are connected with the moves which seem to be based on the expectation of even lower crude oil prices, which result in a few concerns filling all available storage and transporting oil in larger quantities.

Movement From West Texas Increased

The Texas Pipe Line Company boosted its crude shipments from West Texas to coast about 15,000 barrels beginning early in December in order to empty 12 large steel tanks leased from Warner-Quinlan Company in the Church and Fields area. Withdrawal of this storage oil is being made largely because of evaporation losses according to reports and the movement has increased traffic on the company's system to about 35,000 barrels daily. Crude purchases in the Church and Fields area, Crane-Upton district by Tidal Refining Company are being terminated except on connections covered by contracts. Loss of this company's market support is expected to result in the Crane-Upton district being reduced about 5000 barrels daily in allowable production when operators and purchasers meet in Fort Worth December 10 to act on the matter. Tidal Refining Company gathers the crude and tenders same to The Texas Pipe Line Company for shipment to the Gulf Coast.

Request for a production increase in the Van field has been indefinitely withdrawn by sponsors of the movement and the hearing on the matter scheduled for December 10 at Austin by the Texas Railroad Commission was called off late Tuesday, December 9. Approaching completion of Humble Pipe Line Company's 10-inch carrier into the Van field resulted in application being made on November 22 by representatives of Pure Oil Company to increase output of the field from 27,500 to 35,000 December 15, then on a graduated scale to 50,000 barrels daily after February 15.

Summarized Review of Field Results

State—	Completions This week	Completions Last week	Oil Wells This week	Oil Wells Last week	Gas Wells This week	Gas Wells Last week	Failures This week	Failures Last week	Initial Prod. This week	Initial Prod. Last week
Arkansas	2	2	1	1	2	..	..	1	15	15
California	23	20	23	19	..	..	..	1	23,680	7,085
Illinois	5	5	4	3	..	..	1	2	43	24
Kansas	13	18	6	7	..	5	7	6	3,656	5,560
Kentucky	14	18	9	12	4	1	1	5	1,110	291
Louisiana	17	18	4	4	5	8	8	6	2,126	1,703
Michigan	4	14	2	5	1	1	1	8	167	750
Mississippi	3	2	..	..	3	1	..	1	...	...
New Mexico	5	2	5	2	..	..	..	..	31,862	12,375
Ohio	56	58	20	10	18	26	18	22	216	120
Oklahoma	57	53	28	27	9	8	20	18	76,784	184,389
Pennsylvania	..	5	..	2	..	..	..	3	...	5
Texas	96	71	36	26	10	16	50	29	9,307	36,159
West Virginia	16	11	2	..	10	7	4	4	7	...
Total	311	297	140	118	61	73	110	106	148,973	248,476
Increase	14	..	22	..	..	..	4	..	...	...
Decrease	..	..	..	..	12	..	..	..	99,503	...

MARKET SECTION

Crude Oil Price Quotations

(Revised to December 9, 1930)

EASTERN FIELDS

(Posted by Joseph Seep Purchasing Agency)

Bradford—Alleghany district (posted by Tide Water Pipe Co., Ltd.) (Effective Nov. 13, 1930) $2.15

Penna. Grade Oil in National Transit Lines (Other Pennsylvania) (Effective, Nov. 13, 1930) 1.85

Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania) (Effective Nov. 13, 1930) 1.80

Penna. Grade Oil in Eureka Pipe Lines (West Virginia) (Effective Nov. 13, 1930) 1.70

Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O.) (Effective Nov. 13, 1930) 1.45

Wayne district crude in Cumberland lines (West Virginia) (Effective July 23, 1930) 1.17

Corning Grade in Buckeye Pipe Lines (Ohio) (Effective Oct. 28, 1930)..... 1.25

Somerset Oil in Cumberland Pipe Lines (Kentucky) (Effective July 23, 1930). 1.30

Somerset Oil in Eureka Pipe Lines (Effective July 23, 1930) 1.14

Ragland Grade in Cumberland Pipe Lines (Kentucky) (Effective Jan. 9, 1929)... 0.60

*Oil run prior to July 1, 1929 is $2.10 per bbl.

(Posted by Stoll Oil Refining Company)

Oil City, Ky., oil in Stoll lines (Effective Oct. 28, 1930) 1.10

MICHIGAN

(Posted by Dixie Oil Company)

Traverse and Dundee (Muskegon), effective April 16, 1930, same gravity and price schedule as Prairie posts in Oklahoma and Kansas, on gravity basis prior to reduction on Oct. 27, 1930.

(Posted by Pure Oil Company)

Midland, Midland County, Oct. 27, 1930..$1.10

CENTRAL STATES FIELDS

(Posted by Ohio Oil Company)

(Effective Oct. 28, 1930)

Wooster	$1.35	Princeton	1.30
Lima	1.10	Illinois	1.30
Waterloo	1.20	Plymouth	.88
Indiana	.87	W. Kentucky	1.15

CANADIAN CRUDE

(Posted by Imperial Oil Refineries, Ltd.)

(Effective October 28, 1930)

Petrolia	$1.50
Oil Springs	1.57

OKLAHOMA, KANSAS and NORTH TEXAS

Prices of Prairie Oil & Gas Co., and Stanolind Crude Oil Purchasing Company, Effective Nov. 1, 1930. Carter Oil Company Same Schedule Effective Oct. 28.

Below 29	$0.65	35-35.9	.92
29-29.9	.69	36-36.9	.95
30-30.9	.73	37-37.9	.98
31-31.9	.77	38-38.9	1.01
32-32.9	.81	39-39.9	1.04
33-33.9	.85	40 and above..	1.07
34-34.9	.89		

Magnolia Petroleum Company Effective October 28.

Below 26	.53	27-27.9	.61
26-26.9	.57	28-28.9	.65

From here to 40 and above gravity same schedule as above.

NORTH TEXAS

Posted by All Purchasers Except Magnolia Petroleum Company

Ranger, North Texas, Van, Mexia, Powell, Boggy Creek, Richland, Wortham, Lytton Springs, Currie, Moran, and Nocona crudes:

Below 29	$ .65	35-35.9	.92
29-29.9	.69	36-36.9	.95
30-30.9	.73	37-37.9	.98
31-31.9	.77	38-38.9	1.01
32-32.9	.81	39-39.9	1.04
33-33.9	.85	40 and above..	1.07
34-34.9	.89		

Magnolia Petroleum Company, Effective October 28

Below 26	.53	27-27.9	.61
26-26.9	.57	28-28.9	.65

From here to 40 and above gravity same as schedule above.

(*Continued on page* 58)

California Prices

Effective September 15, 1930, at 7:00 A. M. the following are the current prices offered by STANDARD OIL COMPANY OF CALIFORNIA

Gravity	Signal Hill	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Olinda-Brea Canon	Athens-Rosecrans Dominguez	Elwood Terrace	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway-Sunset Elk Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge	Gravity
14-14.9	$ .70	$ .70	$ .70	$ .70	$ .70	$ .70			$ .70	$ .70	3 .70	$ .70	$ .70		$ .55	$ .55	$ .55	$ .55	$ .55	$ .55	14-14.9
15-15.9	.70	.70	.70	.70	.70	.70			.70	.70	.70	.70	.70		.55	.55	.55	.55	.55	.55	15-15.9
16-16.9	.70	.70	.70	.70	.70	.70			.70	.70	.70	.70	.70		.55	.55	.55	.55	.55	.55	16-16.9
17-17.9	.70	.70	.70	.70	.70	.70			.70	.70	.70	.70	.70		.55	.55	.55	.55	.55	.55	17-17.9
18-18.9	.76	.76	.76	.76	.76	.76			.76	.76	.76	.71	.76		.55	.62	.62	.62	.62	.62	18-18.9
19-19.9	.82	.82	.82	.82	.82	.82			.82	.82	.82	.77	.82		.55	.70	.70	.70	.70	.70	19-19.9
20-20.9	.88	.88	.88	.88	.88	.88			.88	.88	.87	.83	.87			.78	.78	.78	.78	.78	20-20.9
21-21.9	.94	.94	.94	.94	.94	.94			.94	.94	.93	.90	.93	$ .92		.86	.86	.86	.86	.86	21-21.9
22-22.9	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	.98	.97	.98	.95		.94	.94	.94	.94	.94	22-22.9
23-23.9	1.07	1.07	1.07	1.07	1.07	1.07			1.07	1.07		1.05	1.04	1.01		1.02	1.02	1.02	1.02	1.02	23-23.9
24-24.9	1.12	1.12	1.12	1.12	1.12	1.12	$1.12		1.12	1.12		1.08	1.08	1.05		1.06	1.06	1.06	1.04	1.04	24-24.9
25-25.9	1.17	1.17	1.17	1.17	1.17	1.17	1.17		1.17	1.17		1.11	1.12	1.09		1.10	1.10	1.10	1.06	1.06	25-25.9
26-26.9	1.22	1.22	1.22	1.22	1.22	1.22	1.22		1.22	1.22		1.15	1.16	1.13		1.14	1.14	1.14	1.08	1.08	26-26.9
27-27.9	1.26	1.26	1.26	1.26	1.26	1.26	1.27		1.26	1.26		1.19	1.21	1.18		1.18	1.18	1.18	1.11	1.10	27-27.9
28-28.9	1.30	1.30	1.30	1.30	1.30	1.30	1.32		1.30	1.30		1.23	1.25	1.23		1.23	1.23	1.23	1.15		28-28.9
29-29.9	1.34	1.34	1.34	1.34		1.34	1.37			1.34		1.26	1.29	1.28		1.29	1.29	1.29	1.19		29-29.9
30-30.9	1.38	1.38	1.38	1.38		1.38	1.42			1.38		1.29	1.33	1.33		1.35	1.35	1.35	1.23		30-30.9
31-31.9	1.43	1.43	1.43	1.43		1.43	1.43							1.38		1.41	1.41	1.41	1.27		31-31.9
32-32.9	1.48	1.48	1.48	1.48			1.52							1.43		1.47	1.47	1.47	1.31		32-32.9
33-33.9							1.57							1.48		1.53	1.53	1.53	1.35		33-33.9
34-34.9							1.62	$1.32						1.53				1.59	1.39		34-34.9
35-35.9							1.66	1.39						1.58				1.65	1.43		35-35.9
36-36.9							1.72	1.46						1.63							36-36.9
37-37.9							1.78	1.53						1.68							37-37.9
38-38.9							1.84	1.60						1.73							38-38.9
39-39.9							1.90	1.66						1.78							39-39.9
40-40.9							1.96	1.72													40-40.9
41-41.9							2.02	1.78													41-41.9
42-42.9							2.08	1.84													42-42.9

F. O. B. Ship

KETTLEMAN HILLS*	
35-39.9	$1.10
40-44.9	1.20
45-45.9	1.35
50-54.9	1.50
55 and above	1.65

*Posted by Union Oil Company.

MARKET SECTION

CRUDE OIL PRICE QUOTATIONS (*Continued from Page 57*)

PANHANDLE

Posted by All Purchasers, Effective Oct. 28, 1930

Gray County Crude

Below 29	$ .50	29-29.9	.54
30-30.9	.58	36-36.9	.80
31-31.9	.62	37-37.9	.83
32-32.9	.66	38-38.9	.86
33-33.9	.70	39-39.9	.89
34-34.9	.74	40 and above	.92
35-35.9	.77		

Carson and Hutchinson County Crudes

Below 29	$ .45	35-35.9	.72
29-29.9	.49	36-36.9	.75
30-30.9	.53	37-37.9	.78
31-31.9	.57	38-38.9	.81
32-32.9	.61	39-39.9	.84
33-33.9	.65	40 and above	.87
34-34.9	.69		

WEST TEXAS

Posted by All Purchasers, Effective October 28, 1930

Winkler and Pecos County Crudes:

Below 25	$ .55	31-31.9	.69
25-25.9	.57	32-32.9	.71
26-26.9	.59	33-33.9	.73
27-27.9	.61	34-34.9	.75
28-28.9	.63	35-35.9	.77
29-29.9	.65	36 and above	.79
30-30.9	.67		

Crane, Upton, Crockett, Ector, Ward, Loving, Mitchell,* Howard, and Glasscock Counties, Texas, and Lea County, New Mexico crudes

Posted by All Purchasers, Effective Oct. 28, 1930

Below 25	$ .50	31-31.9	.64
25-25.9	.52	32-32.9	.66
26-26.9	.54	33-33.9	.68
27-27.9	.56	34-34.9	.70
28-28.9	.58	35-35.9	.72
29-29.9	.60	36 and above	.74
30-30.9	.62		

*Magnolia Petroleum Company uses Gravity scale and Coltex Refining Company pays flat price of 60 cents for Mitchell County.

GULF COAST

(Posted by Humble Oil & Refining Company, The Texas Company and Sun Company)

Gulf Coast Crude will be classified as follows in fields designated below:

Goose Creek, Hull, Boling, Liberty, Orange, Pierce Junction, Raccoon Bend, Barbers Hill, Sour Lake, Spindletop, Sugar Land, West Columbia and Humble crudes:

"A" GRADE—All crudes conforming to the following tests:

Viscosity—Not less than 100 seconds at 100° F. Saybolt.

Sulphur—Not over .4%.

Beaume Gravity—Not over 25 at 60° F.

Cold test of distillates having a viscosity of 1000 seconds at 100° F, shall not be over 5° F.

"A" GRADE—$1.00.

"B" GRADE—Embraces all Coastal crude which does not meet the test for "A" grade crude:

Below 25	$ .75	26-26.9	.94
25-25.9	.92	27-27.9	.96
28-28.9	.98	34-34.9	1.10
29-29.9	1.00	35-35.9	1.12
30-30.9	1.02	36-36.9	1.14
31-31.9	1.04	37-37.9	1.16
32-32.9	1.06	38-38.9	1.18
33-33.9	1.08	39-39.9	1.20
		40 and above	1.22

Markham (The Texas Company) ..... .75

Posted by Gulf Pipe Line Company, Effective October 30, 1930

High Island	$ .75		
Grade "A"	.80		
Grade "B"			
Below 25	$ .69	33-33.9	.87
25-25.9	.71	34-34.9	.89
26-26.9	.73	35-35.9	.91
27-27.9	.75	36-36.9	.93
28-28.9	.77	37-37.9	.95
29-29.9	.79	38-38.9	.97
30-30.9	.81	39-39.9	.99
31-31.9	.83	40 and above	1.01
32-32.9	.85		
Jennings, La.	.80		

SOUTHWEST TEXAS

Posted by All Purchasers, Effective Oct. 28, 1930

Refugio Heavy crude, below 25 gravity.. .75

Refugio Light crude:

25-25.9	$ .92	33-33.9	1.08
26-26.9	.94	34-34.9	1.10
27-27.9	.96	35-35.9	1.12
28-28.9	.98	36-36.9	1.14
29-29.9	1.00	37-37.9	1.16
30-30.9	1.02	38-38.9	1.18
31-31.9	1.04	39-39.9	1.20
32-32.9	1.06	40 and above	1.22

Mirando crude	$. 75
Salt Flat crude	.90
Darst Creek crude	.90
Pettus crude	1.10
Luling	.75
Corsicana, heavy	.75

Determination of quality, deductions, adjustment for temperature, etc., on oil purchased in Texas, shall be in accordance with the rules and regulations of the Texas Railroad Commission, and on oil purchased in New Mexico shall be in accordance with the rules and regulations of the Corporation Commission of New Mexico.

LOUISIANA-ARKANSAS

All Purchasers Except Magnolia Petroleum Co., Effective Oct. 29, 1930

Pine Island District, Haynesville District, Bull Bayou District, El Dorado District, Rainbow District, Cotton Valley

Below 29	$ .65	37 to 37.9	.98
29 to 29.9	.69	38 to 38.9	1.01
30 to 30.9	.73	39 to 39.9	1.04
31 to 31.9	.77	40 to 40.9	1.07
32 to 32.9	.81	41 to 41.9	1.10
33 to 33.9	.85	42 to 42.9	1.13
34 to 34.9	.89	43 to 43.9	1.16
35 to 35.9	.92	44 and above	1.19
36 to 36.9	.95		

Urania, La.	.75
Bellevue, La.	1.00

Magnolia Petroleum Company, Effective October 30, 1930

Below 26	$ .53	27-27.9	.61
26-26.9	.57	28-28.9	.65

From here prices same as schedule above.

STEPHENS

Below 29	$ .54	31 to 31.9	.66
29 to 29.9	.58	32 and above	.70
30 to 30.9	.62		

Smackover	.70
El Dorado, East Field	.70

ROCKY MOUNTAIN FIELDS

(Salt Creek prices effective Oct. 28, 1930)

‡Salt Creek 29-29.9	.69
" " 30-30.9	.73
" " 31-31.9	.77
" " 32-32.9	.81
" " 33-33.9	.85
" " 34-34.9	.89
" " 35-35.9	.92
" " 36-36.9	.95
" " 37 and above	.98
Elk Basin (Effective Oct. 28, 1930)	1.25
Grass Creek light	1.25
Big Muddy	1.00
Lance Creek	1.33
Rock Creek	1.01
Mule Creek	1.20
Rex Lake	1.10
‡Osage (Nov. 1, 1930)	.85
‡Cat Creek, Montana	1.25
Pondera	1.45
Sunburst, Montana	1.55
‡Hogback, New Mexico	1.40
Artesia, New Mexico	.75

‡Posted by Midwest Refining Co. Midwest also buys Grass Creek light and Elk Basin.

STATE CRUDE PRODUCTION TAXES

Oklahoma—Three per cent of gross value, less royalty interest.

Texas—Two per cent of gross value.

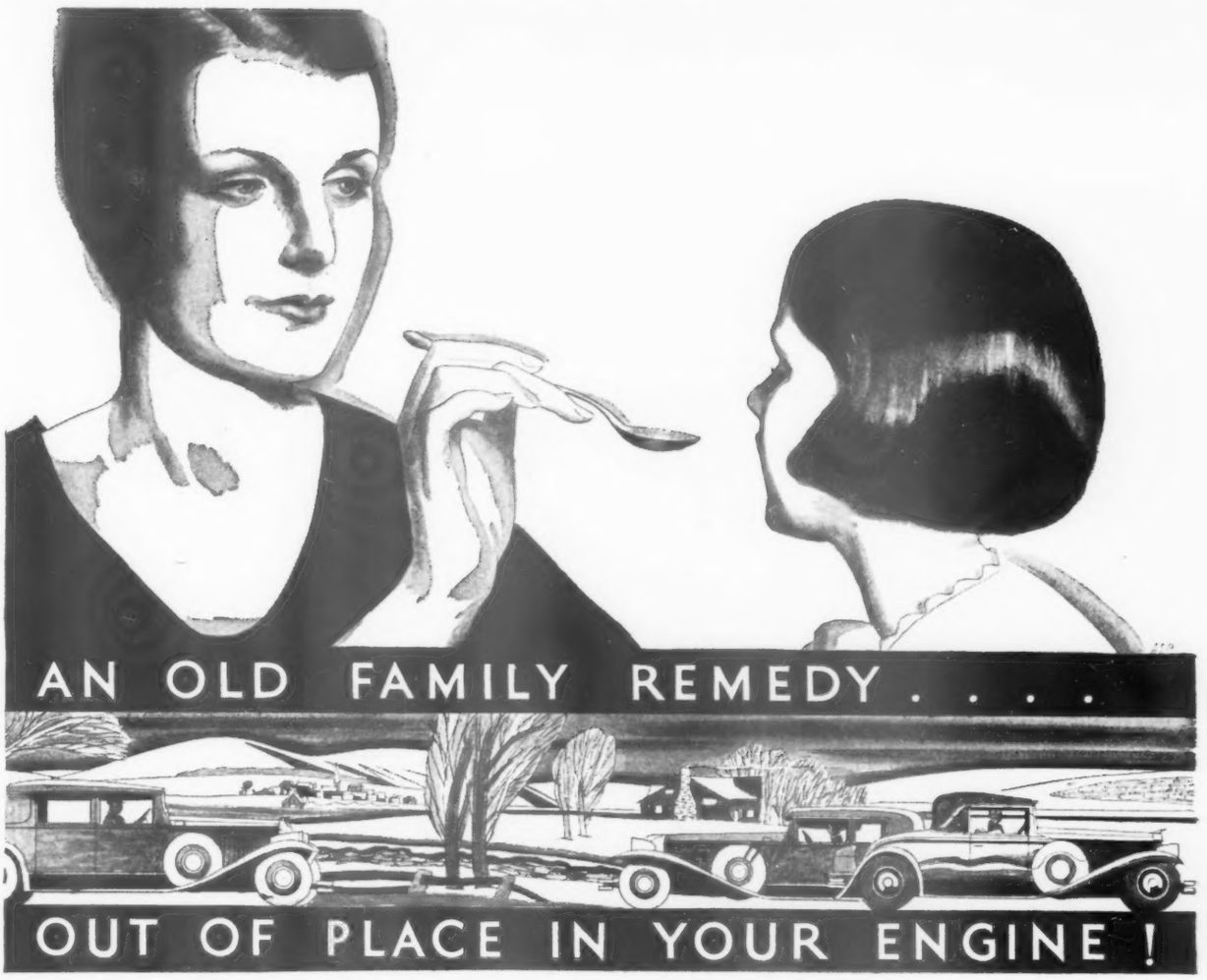
Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 per cent of gross market value.

Montana—Two per cent of gross value at well.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.



PETROLEUM JELLY . . . a familiar friend in every household . . . is the same sticky salve that makes motor oils thick and sluggish in winter.

The great Sinclair refineries, with modern refrigerators and separators, remove this paralyzing petroleum jelly from Sinclair Opaline at as low as 60° F. below zero. (Opaline is guaranteed to flow at zero.) With Opaline your customers are not forced to change to "light" motor oils for easy starting in winter!

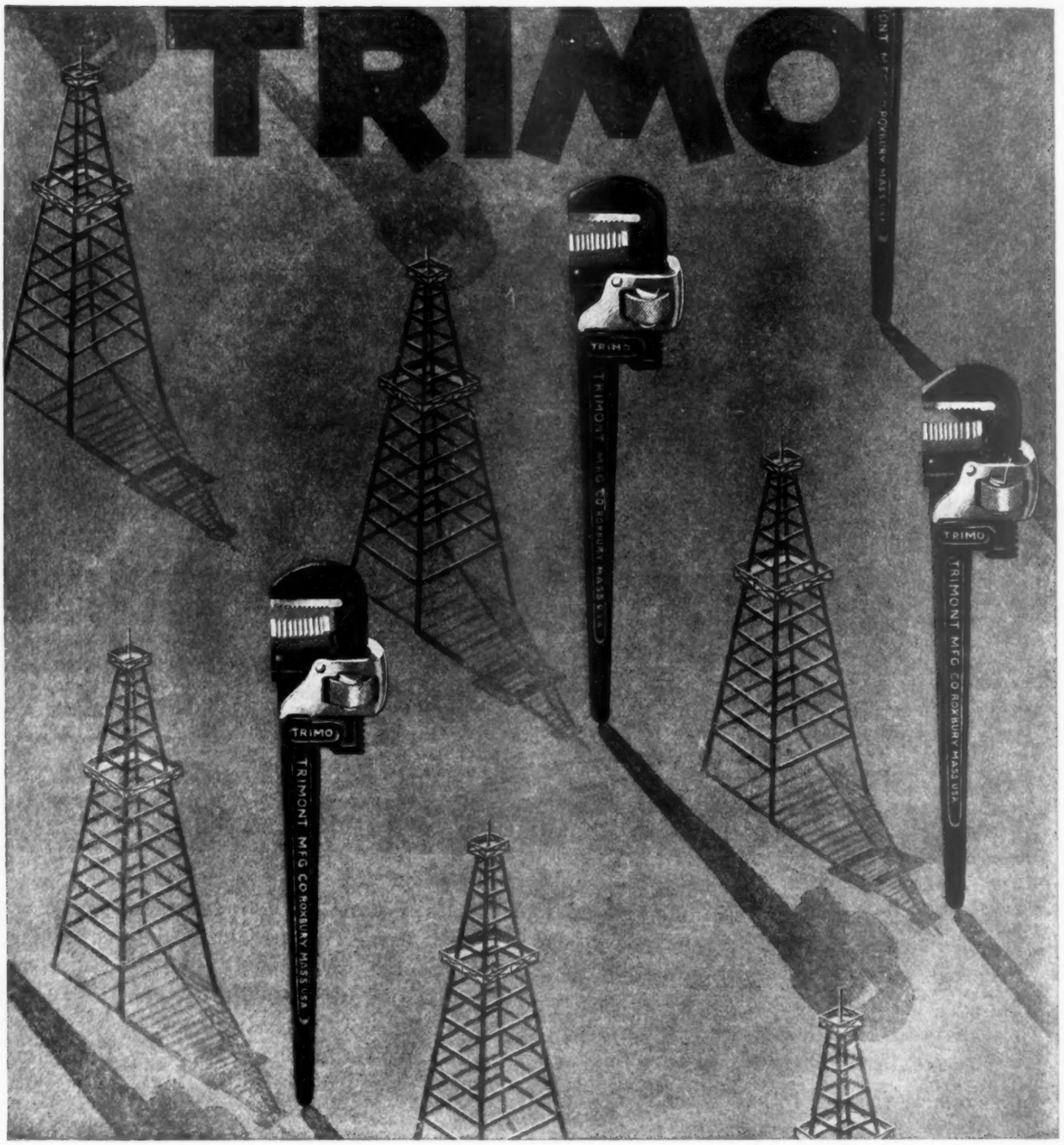
Opaline is refined from paraffin base crudes according to the Sinclair Law of Lubrication. (Write for booklet explaining this famous Sinclair Law . . . it's a sensational sales builder you shouldn't overlook!)

This is the story and above is the girl who'll carry it into millions of homes from coast to coast. Cash in on the sweeping Opaline sales.

* * *

Send a post card to our nearest office and a Sinclair salesman will tell you all about it. Sinclair Refining Company {Inc.}, New York, Atlanta, Chicago, Fort Worth, Houston, Kansas City. Sinclair Refining Company of Canada, Ltd., Toronto. Sinclair Refining Company of California, Los Angeles.

SINCLAIR OPALINE
REG. U. S. PAT. OFF.
MOTOR OIL



— dominates the oil fields because of its unsurpassed safety and strength

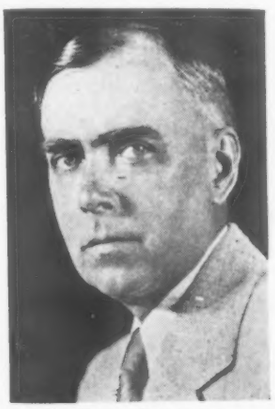
TRIMO

All steel TRIMO pipe wrench handle drop forged--not cast

Trimont Mfg. Co., Inc., Roxbury (Boston), Mass.

PERSONAL MENTION-MEN YOU KNOW

E. L. Smith, Mexia, Texas, was re-elected president of E. L. Smith Oil Company, which operates extensively in Texas, during the annual meeting of stockholders and directors of the company on December 1. The company also declared a $1 cash dividend on its stock of $10 par value, payable January 10, 1931.



DONALD CAMPBELL
President Rocky Mountain Oil & Gas Association (*See page* 74)

Djevad Eyoub, petroleum geologist of San Antonio, Texas, has recently returned to the United States from Turkey where he has spent the past year in making a survey for the Turkish government to determine the oil possibilities of that country. Mr. Eyoub located several promising structures that he thinks will soon be developed, provided the present law governing the exploitation of prospective petroleum-bearing structures be modified. The policy of the government in developing those structures will be that no more oil shall be produced than can be marketed in Turkey, certain opposition being the result if any attempt is made to produce more oil than is required to meet the demands of the country. No effort will be made to produce oil sufficient to create an export trade, the estimated consumption of the country for the year being approximately 500,000 barrels which will be as much oil as the government will allow to be produced.

Lieut. Joseph L. Thompson of the 97th Aero Squadron, U. S. Army, Dodd Field, Fort Sam Houston, Texas, has accepted a position with Moran Drilling Company as pilot of their Lockheed cabin plane.

E. E. Lambert, formerly connected with the Houston office of the Mid-Continent Supply Company, is in charge of the company's Tulsa branch at 113 West First Street.

Pat Malloy of Tulsa has joined the legal department of the Sinclair Oil & Gas Company, as special counsel. Announcement of the appointment was made last week by Edward H. Chandler, general counsel of the Sinclair Oil & Gas Company. Mr. Malloy will be the representative of the company on proration committees and other similar bodies in the petroleum industry. The outline of his duties were contained in the announcement by Mr. Chandler, as follows:

"Effective December 1, 1930, Mr. Pat Malloy of Tulsa, Oklahoma, became associated with the Sinclair Oil & Gas Company, legal department, as special counsel. His representation of the company will include, among other special matter, his membership on the various oil proration committees in Oklahoma, Texas and Kansas. Mr. Malloy will be the official representative of Sinclair Oil & Gas Company before the various committees, commissions, and producers dealing with the problems of proration, and with such assistance as he may desire from other members of the Sinclair organization in Tulsa.

"The long and active experience of Mr. Malloy in the oil industry, and in all its branches, together with his well-known legal attainments, induced the company to secure his service in this special capacity. Mr. Malloy's headquarters will be in Tulsa and he will retain his present offices at 1506 Philtower."

In accepting this post, Mr. Malloy resigned as president of Malloy & Company and took the post of treasurer in that organization. But he remains in supervisory control of his company, of which E. R. Kincaid was made president.

G. Mokshanoff, N. Kurochin, A. Raduschnoff, engineers and J. Maruschak, superintendent of the repair shop, Azneft, Baku, U, S. S. R., have been visiting in California fields. They have spent some time at the Oil Equipment and Engineering Exposition.

C. B. (Boots) Kennedye, having disposed of his interest in Kennedye-Plumb Corporation, St. Louis, of which he was president, to Fayette R. Plumb, has acquired an interest in Metal Forms Corporation, Milwaukee, with whom he is vice-president in charge of sales in the south and west. The company manufacturers metal forms for concrete, including oil field and refinery installations.

C. B. KENNEDYE

The annual election of officers and directors of the California Oil and Gas Association will be held December 17. The nominating committee has submitted the following list for approval: Herbert R. Macmillan, president; C. S. Jones, vice-president; William Reinhardt, vice-president; H. L. Westbrook, treasurer, and J. A. Bermingham, R. A. Broomfield, J. A. Brown, Chester W. Brown, Roy E. Collom, Earle Derby, Hooper C. Dunbar, W. E. Dunlap, D. S. Faulkner, J. Paul Getty, Earle Gilmore, E. W. Goeser, H. Paul Grimm, S. A. Guiberson, Jr., Edwins Higgins, J. H. Jenkins, A. T. Jergins, C. S. Jones, M. E. Lombardi, A. B. Macbeth, Herbert R. Macmillan, Theodore Martin, A. C. Mattei, William C. McDuffie, E. J. Miley, L. B. Peeples, J. R. Pemberton, W. B. Pyron, William Reinhardt, F. C. Ripley, C. P. Watson, A. L. Weil and H. L. Westbrook, directors.

G. MOKSHANOFF, N. KUROCHKIN, A. RUDUSCHNOFF, J. MARUSCHAK

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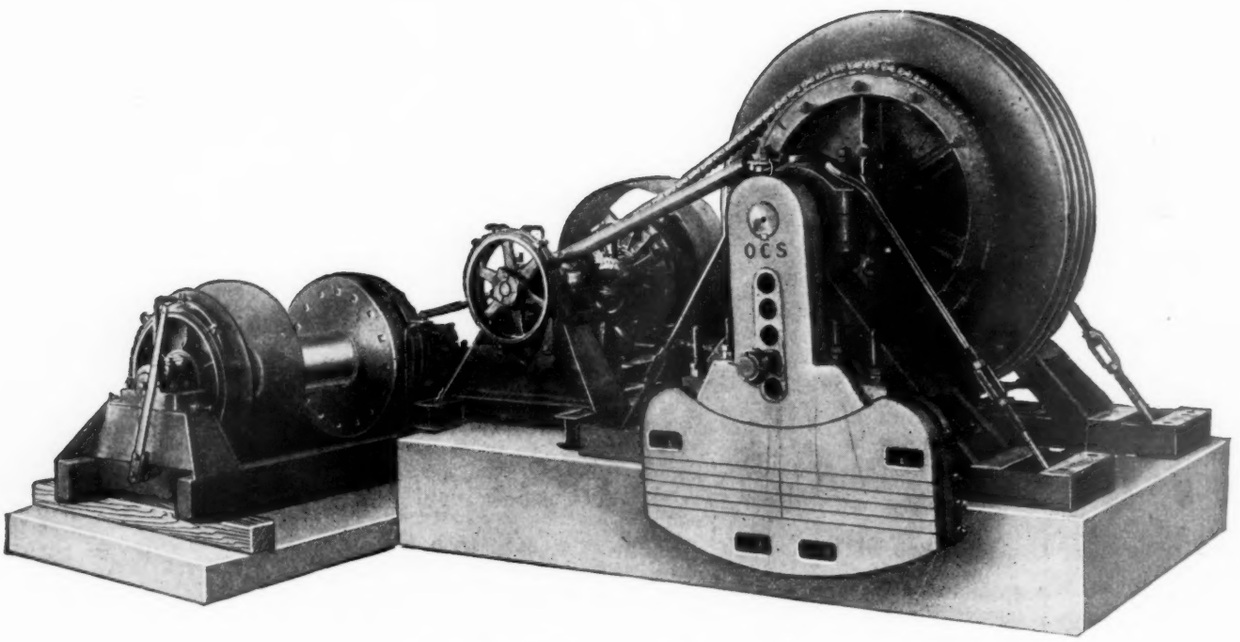

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PIPE LINE ACTIVITIES

NEWS ◆ PERSONAL ◆ TECHNICAL ◆ ENGINEERING

Plan Gas Line from Kirbyville, Texas to Franklin, Louisiana

HOUSTON.—Contracts were awarded late last week by United Pipe Line Corporation, a unit of the United Gas Corporation system, for construction of a 158-mile natural gas trunk line from Kirbyville in East Texas to Franklin, south central Louisiana. Construction work is expected to start the latter part of December. It will be completed about March 1, 1931. F. C. Youmans Company and Sexton Corporation of Texas were awarded construction contracts for different sections of the line.

The connection at Kirbyville, Texas, will be with the former Magnolia Gas Company trunk line which has been conveying gas to Beaumont and vicinity from the Waskom and Bethany fields located on the north portion of the Texas-Louisiana state line. That trunk line also extends on eastward through northern Louisiana to the Monroe and Richland gas fields.

Aside from the above trunk line to Franklin there will be built in connection with it 265½ miles of laterals, bringing the total length of main line and branches to 423½ miles.

The route of the trunk line will be through DeQuency, Welsh, Jennings, Crowley, Broussard, Youngsville, St. Martinsville, New Iberia, Jeanerette and Franklin. The sizes of pipe used on the main line will be as follows: 46 miles of 14-inch, 16 miles of 12-inch, 53 miles of 10-inch, 30 miles of eight-inch and 13 miles of six-inch.

Six lateral lines will extend from the main line, and the entire project will serve about 40 communities.

Serving DeRidder and Merryville in western Louisiana there will be a lateral consisting of 29.5 miles of three-inch pipe and eight miles of two-inch pipe.

The Vinton lateral, southwestern Louisiana, will consist of 12 miles of six-inch, nine miles of four-inch and 13 miles of three-inch pipe to serve Lake Charles, West Lake, Sulphur, Vinton, and consumers in the Edgerly and Lockport oil fields, Calcasieu Parish.

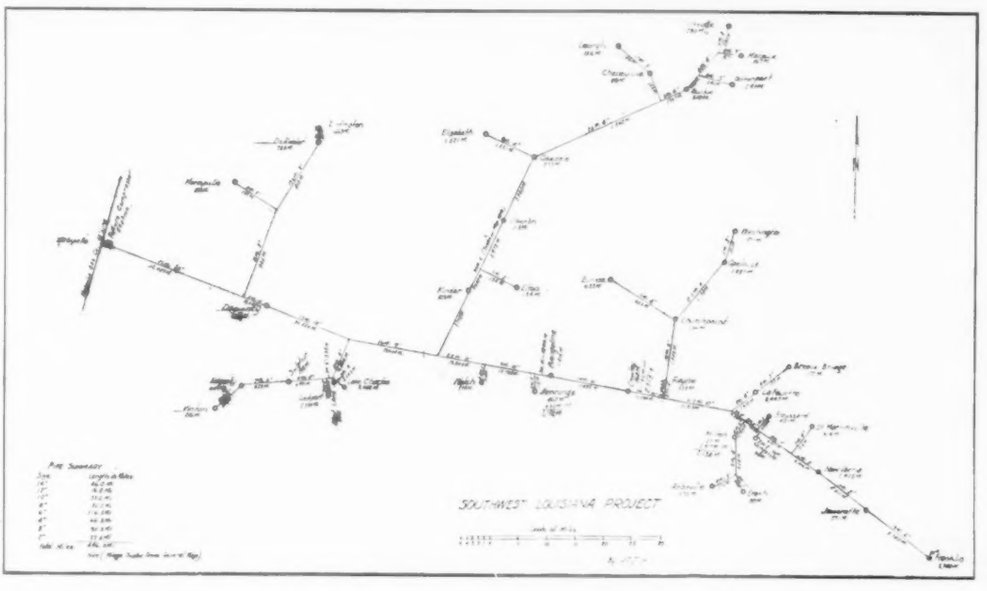
The Marksville line will require 69 miles of six-inch, 17 miles of four-inch, 29 miles of three-inch, and seven miles of two-inch pipe to serve the towns of Kinder, Elton, Oakdale, Elizabeth, Chaneyville, Le Compte, Bunke, Cottonport, Mansura, Hessemer and Marksville.

The Washington lateral will require 13.5 miles of six-inch pipe, 22.5 miles of four-inch, and five miles of three-inch, to serve Rayne, Church Point, Eunice, Opelousas, and Washington.

The Breaux Bridge line will require five miles of six-inch and eight miles of three-inch pipe to serve Lafayette and Breaux Bridge and Lafayette.

A line to Abbeville will consist of four miles of six-inch, six miles of four-inch and eight miles of two-inch pipe to serve Milton and Erath in addition to Abbeville.

Surveys for the main lines have been completed, and plans are drawn for the river crossings. Multiple lines will be provided across the Sabine River, where three 10-inch mains will be laid, and across the Calcasieu River, where three eight-inch mains will be laid.



Pipe Line Outlets for Joiner Pool

Tyler, Texas.—Panola Pipe Line Corporation has been organized by H. L. Hunt and associates, with a capital stock of $20,000, to gather and transport crude from the Joiner field, located in northwestern Rusk County. State headquarters have been established at Henderson. O. W. Hardin and Fred Taylor are associated with Hunt in the project. Hunt recently erected a four-inch line from the field to a small tank car rack, located about three miles northeast of the Joiner discovery well, and will assign this unit to the newly created pipe line concern.

Arthur G. McKee & Company, engineers and contractors, Cleveland, Ohio, have received a contract from the Great Lakes Pipe Line Company, Ponca City, Oklahoma, to construct seven pumping stations with their respective boiler houses. The work is in connection with the new gasoline pipe line from Ponca City, Oklahoma, to Des Moines, Iowa, where the line branches going to the Twin Cities, Minneapolis and St. Paul, and also to Chicago. The total amount involved in building the stations with their equipment will be approximately $650,000.

News From California Fields

BRAD MILLS, *Staff Representative, Los Angeles, California*

Oil Discovered in Temblor in Lost Hills Field

BAKERSFIELD, Calif.—Running true to form, the Temblor formation apparently has been reached in the Lost Hills field by Universal Consolidated Oil Company, drilling near the center of Section 32-26-21 and about 1½ miles from the southeastern end of the field. Cores taken between 4868 feet and bottom at 4897 feet showed a light oil which resembled that produced at South Belridge, a short distance to the south. The discovery is one of the most important developments of the year and makes possible the discovery of a field to produce from the same formation as Kettleman Hills. The oil will be much heavier than the first produced at Kettleman Hills, but may compare favorably with that produced on the flanks and deeper in the sand near the center of the North Dome.

Although leading geologists had predicted favorable developments in the Temblor formation at Lost Hills, the zone was not expected at such a shallow depth. Almost exactly in line with Kettleman Hills, the Lost Hills field should be productive along a narrow strip extending farther to the northwest than the shallow producing zones. A string of casing will be run to 4872 feet for a production test. One core showed five and one-half feet of good oil sand and most of the last 40 feet contained light oil in varying quantities. The sand was medium grained and dark gray.

Discovery of the Temblor at such a shallow depth at Lost Hills immediately brings a new threat into the production picture in California and indicates a great era of very light oil production from a formation which was largely neglected until a short time ago. Since the discovery of Kettleman Hills, the Temblor formation has held a peculiar significance, and rightfully so, because the field threatens to change both the production and economic map of California.

Like the North Belridge field, Lost Hills is very accessible, being located on paved highways and near the railroad. Development of the field could be rapid and a large production would come directly into competition with Kettleman Hills and North Belridge. Principal operating companies largely believe in the theory of curtailment, but possibility of a large production of very light oil at shallow depths makes the development of a large output very attractive.

It is too early to predict the probable size of the Lost Hills field in the Temblor formation, but it may become second only to Kettleman Hills in importance. The field is shaped somewhat like one of the domes at Kettleman Hills, and since it lies in line with the three domes, the connection is much more than theoretical.

California seems on the threshold of a new era of production, with the light oil from the Temblor formation playing the principal role. Early production came from the shallow sands of Kern, Santa Barbara and Los Angeles Counties. This oil was very heavy. The next cycle includes such fields as Huntington Beach, Long Beach and Santa Fe Springs and the oil was regarded as "light." Next cycle may relegate the principal Los Angeles basin fields more or less to the discard and will certainly place Kettleman Hills, Lost Hills and North Belridge squarely in the foreground.

Santa Fe Springs Activity at Lowest Level

Los Angeles.—Field Activity at Santa Fe Springs has reached the lowest level recorded since the day after the discovery well was completed in 1919, and only an important development below 8000 feet will revive interest in one of California's most colorful fields. George F. Getty has suspended operations in No. 48, which was drilled to around 9375 feet, following an unsuccessful swabbing test. This well more or less a secret test of the very deep zone and its failure definitely postpones extensive activity below 8500 feet. Two or three cleaning out operations and one deepening job complete the field work and bring the year to an end which was not anticipated at the beginning of the period. General Petroleum Corporation, Union Oil Company, Shell Oil Company, George F. Getty, Standard Oil Company, The Texas Company and Associated Oil Company, all large producers in the field, have been content to stop all drilling operations.

Playa del Rey Production Again Increased

LOS ANGELES.—Playa del Rey refused to give ground during the week, and with the support of 14 small completions the field output climbed slightly above the average production of the previous week. Following the course set earlier in the year, not an outstanding completion was recorded, but despite the small average initial production, quantity offset quality and the natural decline was offset, with some to spare. The present clusters of completions were anticipated, but the decline of the shallow zone producers has been somewhat slower than expected. As a matter of fact, original estimates were made before there was any definite assurance that a shallow zone would be found.

Virtual abandonment of the deep zone for the shallow sand, at least as far as recent completions were concerned, has caused a large number of wells to be finished ahead of schedule. Assurance of a production between 200 barrels and 600 barrels from the shallow zone has intrigued the townlot operator and he has run to cover in many instances where he originally intended to stop in the deep zone.

A low pressure area and with the inclusion of 1000 feet of sand possible, the shallow formation is declining slower than the deep zone. Had it not been for the shallow sand, the deep zone would have been a disappointment. Enthusiastic boosters are deriving considerable satisfaction from the gradual climb in production, especially so since the best geologists predicted a peak of 30,000 barrels. In justice to these geologists, however, it should be mentioned that the shallow zone had not been proved when the estimates were made.

An oil field is only as good as its producing zones, and Playa del Rey is perhaps a better field than some have been willing to admit. With a production above 40,000 barrels and nearly 100 drilling wells, the field will be a factor longer than expected. As previously stated, the decline of the sluggish shallow zone is slow. Some measure of satisfaction is derived

from the slow decline, since the initial production is almost invariably low. Los Angeles basin fields which have had a high initial production per well have shown rapid declines, while those with lower initial yields have declined slowly. Playa del Rey probably will fit in some intermediate position in the decline scale. There is still a belief among the leading engineers that the field will stage a plunge soon after the peak passes. The townlot activity undoubtedly will be reflected in a much more rapid decline than would be registered with conservative development.

Conflicting factors must be considered in arriving at the future action of the field. A steady production climb without the aid of a single large completion seems inconsistent, but it is often easier to maintain a certain level with uniform producers than with bunches of very large completions, especially so after two or three weeks of record-breaking completions. The higher the initial production, the greater the leeway provided for a decline.

The largest completion of the week flowed less than 800 barrels, with an average initial of less than 400 barrels for the 14 wells finished.

Quality of Weed Patch Oil Considered Good

Bakersfield, Calif.—Although Shell Oil Company does not intend to develop a large production in the new Weed Patch field, located eight miles southeast of this city, the quality of the oil warrants more field activity than in the districts producing heavier oil or crude having a much lower gasoline content. Weed Patch oil, coming from a greater depth than the average of that produced along the east side of the San Joaquin valley, contains a good percentage of gasoline and should be easily cracked. Several companies have obtained leases which may prove within the productive area of the field, but field development will be carried out only when it becomes necessary to drill offsets. Shell Oil Company, with nothing to lose and much to gain, is coring ahead at 6300 feet in Porter Day 1, the discovery well which flowed 1100 barrels from 5910 feet.

Associated Quitclaims Potrero Lease

Los Angeles.—The quitclaiming by Associated Oil Company of the Potrero Club lease in the Potrero field, just outside the city of Los Angeles, marks the abandonment of one of the most determined efforts to develop commercial production ever made in the Los Angeles basin. Soon after the discovery of the field, this lease seemed definitely in line of production. Subsequent drilling, however, proved otherwise and tests at various levels failed to show more than oil and a generous quantity of water. Potrero is the only field along the Newport-Beverly fault that has failed to produce satisfactorily at some level. A jump of nearly a mile to the Inglewood townlot sector failed to change the complexion of the field; and of all the different levels tested between 3800 feet and 6000 feet, not one has produced consistently. Field production does not exceed 1500 barrels.

Kern County Test Down to 8450 Feet

Bakersfield, Calif.—Shell Oil Company has reached a depth of 8450 feet in Williams 1, a deep test in the Semitropic district and one of the deepest wells ever drilled in Kern County. The formation is running to sand shale and in the absence of wells drilled to corresponding depths, correlation is difficult.

Decline in Drilling Anticipated at Long Beach

LONG BEACH, Calif.—A gradual decline in drilling operations in the Long Beach field is expected, following a large number of completions during the past few weeks and failure of new locations to keep pace with new wells.

This field has outwitted every engineer who ever attempted to predict activity over any future period, however, and it is possible that a series of good completions in some little-developed sector or a new producing level will lead to another outburst of drilling.

A survey of present conditions in the field lead to the conclusion that the present number of drilling wells will not be maintained unless some especially favorable development turns the tide upward again. Recent completions just below 5000 feet were the latest sensations and a few operators are prepared to test this level in the south end of the field. This depth compares favorably with the completion depths of the producers of several years ago, and there is a possibility that water may cause some trouble.

It is believed that poor shutoffs before the present rigid rules were enforced and carelessness on the part of a few companies operating during the early history of the field may lead to water intrusion.

The level between 5000 and 5500 feet might be termed an intermediate horizon which divides the shallow and deep development, and there is undoubtedly much oil within the two markers.

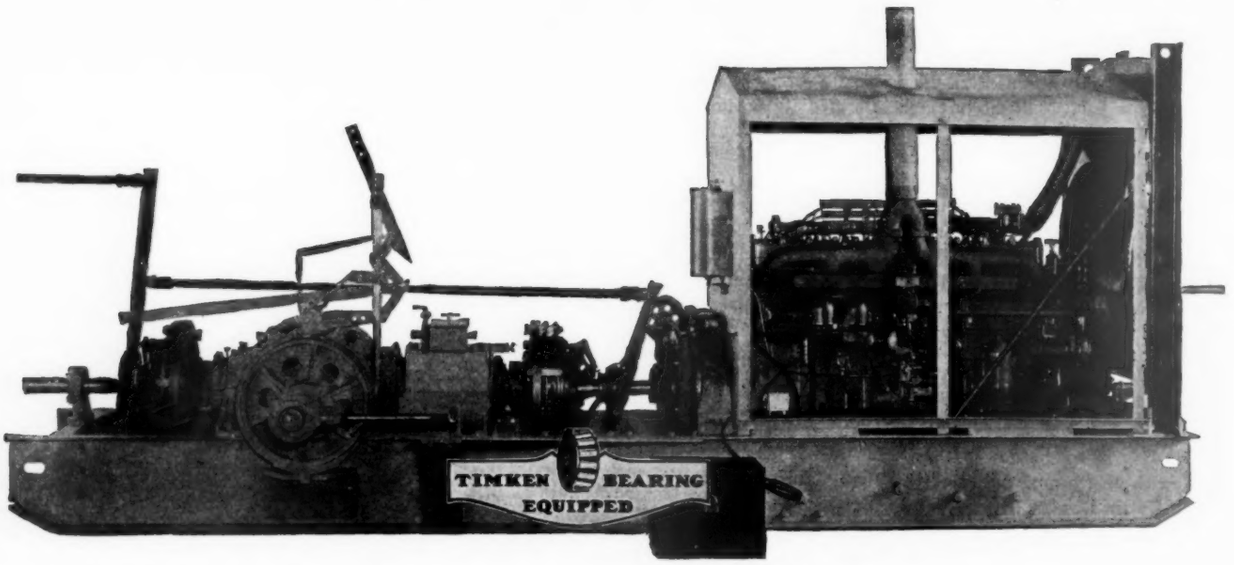
Magna Oil & Gas Company's No. 1, completed 10 days ago and supposedly located on the smallest lease ever drilled, established a potential of 2400 barrels and has been beaned back to 925 barrels. Shell Oil Company completed Stakemiller 8 with an initial production of 1300 barrels, finishing the well at the unusually shallow depth of 5363 feet. The oil is showing a high cut, adding some weight to the theory that completions in the 5000-5500-foot level may contain excess water. P. L. Bixby has placed No. 4, an extension test to the north of the field, on the pump, but production was water, mud and oil from a depth of 6960 feet.

Locate Test Near Capitan Field

Santa Barbara, Calif.—Prairie Oil and Gas Company, following extensive mapping of the district, has located a well on the Rhode Island Estate Corporation ranch, about one mile east of General Petroleum Corporation's activities in the Capitan field. The company controls a large acreage around the well and is drilling on the theory that a medium gravity production is possible at a nominal depth.

California Wildcats Active

Los Angeles.—More new wildcat locations were made in the Los Angeles basin during the past two weeks than within any similar period for several months. Rancho Oil Corporation has started a well north of the Montebello field, Section 30-1-11, and will make a deep test of the project if necessary. George Wolfe has made a location on Section 19-1-12, near Alhambra and a short distance north of Los Angeles. The location is roughly in line with the Montebello and old Los Angeles fields. C. M. Sheeley has started a test north of the Torrance field, Section 12-4-14 and near an abandoned well which was drilled in 1924. The Texas Company is considering a test near the Montebello field but has made no announcement concerning the location.



Life Insurance for Young BIG BOY Drilling Engines

When an oil operator starts to drill a well he wants to keep right on drilling—without let-up or hindrance until he either strikes oil, or is satisfied that it is not possible to do so.

Whether he decides to go down 1,000 feet, 5,000 feet or deeper, he must have drilling equipment that will stay with him under every condition that may be encountered.

Users of Young BIG BOY Drilling Engines built by The Young Engine Corporation, Canton, Ohio, have found this dependability in a combination of scientific design that includes modern anti-friction protection at vital points—as expressed in the Timken Bearing Equipped transmission.

They have found it in Timken tapered construction, Timken positively aligned rolls and Timken-made steel, the exclusive combination that carries radial, thrust and combined loads, eliminates friction, saves fuel and lubricant, slashes maintenance costs and adds years of active life in all types of oil field machinery. The Timken Roller Bearing Company, Canton, Ohio.

TIMKEN *Tapered Roller* **BEARINGS**

Oklahoma--Kansas Field Notes

FLOYD L. SWINDELL, *Staff Representative, Tulsa, Oklahoma*

Outlet Question Overshadows All Else in Oklahoma-Kansas

TULSA.—Oil field development in Oklahoma and Kansas has been pushed into the background, while the industry deals with the matter of providing its wells of the settled production class with outlet. When Prairie Oil & Gas Company withdraws as a purchaser of crude oil January 1, 1931, some 6,000 leases with 35,000 wells and daily output of 50,000 barrels must be turned into other purchasing channels or removed from the market.

December 6 a conference of purchasing concerns in Tulsa was adjourned with a statement to the effect that every effort will be made to take care of leases thus left without a market. Although Prairie Oil & Gas Company will cease to be a general purchaser of crude oil, the facilities of Prairie Pipe Line Company will be available for common carrier service wherever needed. In working out connections for former Prairie leases, it is the plan to use Prairie gathering systems and trunk lines in order to get oil to the facilities of those who may take some of this oil.

Allocation of this oil to other purchasers will take the greater part of the time between now and January 1. While it seems reasonable that a part of this settled production will find market elsewhere, it is doubtful if all of it can be cared for by that time.

The statement of Ray M. Collins, umpire of proration affairs in Oklahoma, after the conference was:

"The purchasing and pipe line companies adjourned our conference in an aimable frame of mind and they asked me to assure oil producers that everything will be done to take care of producers who will be without any connections on January 1, next, when Prairie Oil & Gas Company ceases as a purchaser.

"Steps are being taken and plans are being made to care for everyone. To do this a lot of switching of crude and re-allocating must be done, but the oil purchasers believe that within a week or 10 days we will have our plans at work so that when New Years Day comes, everyone will be protected."

What finally happens to the settled production of the Mid-Continent area is dependent upon two conditions. One is the market demand for crude oil and the other is the attitude of purchasers. The demand will not improve for the remainder of the winter and some indications are that it will decrease. The weakening influence in market demand is the financial status of perhaps a score of independent refining concerns, some in Kansas, others in Oklahoma and some in North Texas. Gasoline has been selling at prices which have allowed no profit for a long period. There is nothing to indicate an F. O. B. refinery price on U. S. motor gasoline of more than five cents a gallon for the near future. This situation has brought several concerns to the point where further operation is questionable.

Crude Demand May Decline

Should any of these plants cease operation, the demand for crude oil will drop by that much, for remaining refining plants will not be justified in increasing still throughput over the winter.

While no figures have been compiled, it seems reasonable that the demand for Oklahoma crude oil will drop close to 500,000 barrels daily for January and February. The demand for December was placed at 535,000 barrels daily when the present proration order was passed by the Oklahoma Corporation Commission.

What other purchasers may do with connections released by Prairie Oil & Gas Company January 1 is dependent upon their attitude and upon the persuasive powers of men who are determined to preserve the setttled production. It is known that other major purchasing companies could have adequate crude oil supplies out of the flush and semi-flush areas of the state. Some are disposed to confine purchases to these areas of higher well output where gathering costs are lower and where the quality of crude oil is better.

The hope of the areas of settled productiton lies in the conviction of other purchasing agency executives who are determined to preserve the settled output. These men, through the several organizations, will bend every effort to induce the other purchasers to give up the advantages of flush-field oil as an aid to the retention of the oil from settled production classification.

The serious barrier facing the settled producttion of the Mid-Continent is that of expense. It costs more money to gather oil from wells of two to five barrels per day than it does to take the oil from wells of from 200 to 500 barrels daily. Executives of some of the buyers of crude are of necessity forced to consider expense first. The task of gaining the consent of these men in a program of saving the older wells, gets back to one of money.

The other alternative is a reduction in the price of oil from these older areas sufficient to offset the difference in cost of putting the oil in trunk lines. With that much money deducted from the present posted schedule, the producers will be in little better condititon than they now face.

Proration Violation Boosts Oklahoma City Output

TULSA.—Production of the Oklahoma City pool reached 116,440 barrels Monday due to three concerns following their threat of violating the proration order with action in keeping. The three allowed some wells to flow through chokes and thus boosted output above its normal figure.

The Oklahoma City pool offered nothing outstanding for the start of its third year in the way of completions. The statisticians have been busy calculating its magnitude at the end of two years. The field now has 662 producing wells. After applying decline curves to the total potential output given to the field, the present possible open-flow for the field has been put in excess of 3,000,000 barrels, although the common opinion is that actual flow over even a brief period would reveal output much below that figure.

In its two years the field has produced 37,000,000 barrels of oil and for the greater part of its history it has been under the ban of proration. The first well of Indian Territory Illuminating Oil Company, completed December 4, 1928, is still

good for 200 barrels of oil daily on gas lift when allowed to produce. It has contributed more than 1,000,000 barrels to the total for the field. In addition to wells completed, the field has 104 wells drilling and 19 rigs.

For the state as a whole, the status of field development is revealed in a list of first reports for the week, showing just 33 new wells for Oklahoma. There were only 56 wells completed during the week, 11 being in Oklahoma City. Of total completions 20 were dry and eight were gas wells.

Kansas Field Work Continues at Low Ebb

Tulsa.—While oil producers in Kansas are seeking a method of proration to fit reduced pipe line purchases, field development is down to a low ebb. Reports last week credited the Sunflower state with only eight new wells for the period.

The outstanding completion for the week was that of Lario Oil & Gas Company and Shell Petroleum Corporation's Miller 2, SE NE SE 1-20s-2w, in the Ritz pool. In 24 hours the well swabbed 2500 barrels from the chat from 2019 feet to 2965 feet. The Eastborough pool, near Wichita, now has 31 producing wells. Magnolia Petroleum Company completed this well last week, Wheeler 3, NEc 19-27s-2e. It is on the west side of the pool and made 16 barrels an hour from chat found at 2948 feet, total depth was 2971 feet.

Just when the Schurr pool of Rice County was to have it first pipe line outlet, Prairie Oil & Gas Company announced its retirement as a general purchaser of crude in the Mid-Continent. Prairie Pipe Line Company has just finished a line of 44 miles into this pool and had promised to take 50 barrels daily from each well, prior to the retirement announcement.

Shell Asks "Copper, Steel, Why Not Oil?"

New York.—Supplementing a statement by F. Godber, director of the Royal Dutch Shell Group, on conditions of the oil industry in the United States and in which he advocated higher prices for crude,* Richard Airey, also an official of the Shell organization, in a statement given to the press on December 4, refers to increase in the prices of copper and steel and asks the question: "Copper, steel —why not oil?"

"It is the firm opinion of the Royal Dutch Shell Group," the statement continues, "that the producers who have made possible the great curtailment of production already accomplished, and the need for still further curtailment, should be compensated by higher prices and not penalized by a reduction.

"It has been said we have put out feelers for a joint price raise. This is not correct. We have made known our opinion through the press the danger we fear, that the curtailment program will be upset by the small producers being brought to the edge of ruin and being compelled to increase production to live.

"Trade advices show that the consumption of gasoline is declining, therefore crude oil production and refinery runs should be further curtailed. We are following the United States movement by curtailing in Venezuela where, November 1, our production was 192,500 barrels daily and now is 156,000 barrels daily."

On the same date news agencies carried a statement from F. Godber, issued through a nationally known publicity agency, and evidently intended for later release. In this statement Mr. Godber enlarges upon the Airey declaration and largely reiterates his previous observation in this connection.

*The Oil Weekly, November 28, 1930, page 24.

Texas Division to Meet in Dallas, December 16

Dallas, Texas.—Annual meeting of the Texas division of the Mid-Continent Oil & Gas Association will be held here Tuesday, December 16. The usual program will be carried out, consisting of a morning business session, and golf tournament in the afternoon, while a banquet will take place in the evening at a local hotel. Edward T. Moore, president, Simms Oil Company, Dallas, is president of the division.

The Texas division has been very active during the past year through having sponsored proration enforcement in various fields and districts of the state that experienced unbalanced market conditions. The organization is maintaining a staff to carry on this work under the guidance of a central committee, which is headed by R. R. Penn, president, Penn Oil Company, Dallas, and proration matters are expected to figure prominently in the business session.

A general invitation to producers throughout the state to attend the meeting has been announced by Joe P. Laney, secretary of the Texas division.

Mid-Year Meetings Announced

New York.—The complete schedule of the mid-year meetings of the American Petroleum Institute was announced December 8 as follows: division of production will meet at the Baker hotel, Dallas, June 3 and 4; the division of refining will meet at the Statler hotel, St. Louis, April 15 and 16, and the division of marketing will meet at the Mayo hotel, Tulsa, May 12 and 13.

Midwest Opens New Division Office at Billings

Billings, Mont.—Midwest Refining Company has opened new division quarters for Montana, Alberta, and Northern Wyoming here, with Harry Bossart, assistant general superintendent, of Casper, in charge of production in this territory. It is understood that the company will do considerable exploration work in this region in 1931.

California Strives to Prevent Market Crisis

(*Continued from page 27*)

ready reduced to conform with the present program, will be called upon to make further concessions. The more stubborn fields will also be reduced some, but it will be a more difficult matter to force lower totals in the areas now causing trouble than in the fields that are hewing to the line. Santa Fe Springs and Long Beach are producing more than their allowables, but a more serious threat toward lower crude prices probably would bring about better co-operation.

Kettleman Hills is producing twice as much oil as it should yield, due to completions on fee land. After wells are completed here, they are allowed to produce on account of the very high pressure. Gas waste and over-production are being winked at on the pretext that the wells would be seriously damaged if shut in. This is probably true, but the chief offense seems to lie in the actual completion of wells which might be shut down on top of the sand.

The differential between California and Mid-Continent prices is causing much discussion and an adjustment probably will be made one way or another. The belief is held in California that higher quotations will prevail in Mid-Continent fields after the first of the year and that an adjustment will be unnecessary.

North and West Texas Field Notes

H. H. KING, *Staff Representative, Fort Worth, Texas*

Increased Crude Purchases Aid North and Central West Texas

FORT WORTH, TEXAS.—Increased crude purchases by Stanolind Crude Oil Purchasing Company and Magnolia Petroleum Company in the North and Central West Texas districts enabled propration committees tor each of the districts to provide market outlet and additional relief for many properties as result of meetings held here last week. The volume of crude being thrown upon the market at distressed prices in the districts will be curtailed through cooperative steps taken by proration leaders in lining up buyers and producers. The Central West Texas group met December 3, with John M. Gholson, Ranger, chairman of the district, presiding, while P. Barney Flynn, Reno Oil Company, Wichita Falls, presided during the North Texas district meeting on December 4.

Withdrawal of Prairie Oil & Gas Company as a crude purchaser in the two districts was largely in effect at the time of the two meetings, and relief sought by producers affected by the above company's action furnished the major problem for the Central West Texas proration committee. Officials of Prairie Oil & Gas Company have since announced that no oil will be purchased after 1930, and about 6000 barrels of production in the district will then be thrown back upon the market. The loss of this company's nominations will likely force a reduction in allowable production beginning with the new year, unless other buyers stretch their takings.

Adoption of a four-barrel, marginal well plan irrespective of depths of producers in the North Texas district, and enforcement of same by the two leading buyers in the Central West Texas district has accounted for considerable more market outlet for leases that are over-prorated, or without market relief. The four barrel marginal plan was first introduced November 25 as a substitute for the six barrel margin on shallow wells as authorized by the Texas Railroad Commission. Humble Oil & Refining Company introduced the plan in order to spread its purchases over a greater number of leases, and endorsement of same followed immediately by the North Texas proration group. The Texas Company adopted the four-barrel margin December 1, and proceeded to take on new connections in order to maintain its crude nominations. The latter company takes about 60 per cent of the potential production of wells that yield more than the four-barrel margin, but none is prorated below its minimum quota.

Beginning November 25, Humble Oil & Refining Company nominated a crude quota of 3400 barrels daily in Archer, Wichita, Wilbarger and north Young Counties, with all wells on the four barrel margin, while 10 per cent of the excess potential will be run for purchase. This company has a fixed quota of 1650 barrels daily in Cooke and Montague Counties, and wells yielding in excess of four barrels will be allowed to produce 65.4 per cent of the balance. In the Central West Texas, or Ranger district, its nominations are limited to 5000 barrels daily, and wells producing above four barrels daily will be held to 36.8 per cent of the excess potential.

While the four-barrel marginal plan aids in providing relief for former connections of Prairie Oil & Gas Company, the plan works a hardship on the owners of many hundred deep wells producing from lime formation in the Ranger district. Gholson made an unsuccessful plea for a larger marginal allowance for such wells. W. H. Dyer, umpire for the Central West Texas district, attended the meeting, and submitted detailed reports by counties on wells exempt and those subject to proration.

Allowable production in Central West Texas was slated to be 24,142 barrels daily during the current period, exclusive of North Young County, but indications are that it may be reduced considerably by reason of Prairie Oil & Gas Company withdrawing. Stanolind Crude Oil Purchasing Company has connected to all of the latter's former customers in the Kisinger pool, Young County, and a number of leases in the Bryson field, Jack County. The Texas Company also shared in taking care of operators in the latter area.

Heavy expense involved in building lines to leases hooked up to Prairie Pipe Line Company's system in Central West Texas may delay outlets being provided some properties. Representatives of this transportation concern made it known at the meeting that its lines would not be loaned to other concerns, but that said lines would be available for the handling of oil on a common carrier basis.

Lists of properties in Central West Texas that have been, or will be disconnected by Prairie Oil & Gas Company were submitted by John Mouser, representative of the company, and in many cases the connections were apportioned among nearest lines of other buyers. The work was not completed, and another session is to be held at Ranger December 8.

A brighter outlook for North Texas from a proration enforcement standpoint became assured at the conclusion of the Fort Worth meeting, which revealed that both Magnolia Petroleum Company and Stanolind Crude Oil Purchasing Company were willing to increase their purchases in the district in order to help in eliminating inequal proration of leases of small operators. The Texas Company and Humble Oil & Refining Company likewise contributed some relief by picking up additional connections near existing lines to offset loss in takings caused by the smaller marginal well schedule.

Wants Production Cut

Flynn testified at the meeting that his committee wants to cut production in the North Texas district about 11,000 barrels, and in doing so would make the supply of crude scarce enough to force independent refiners to boost their price offers, which now range from about 60 to 90 cents per barrel at the well. He also stated that proration restrictions would be enforced to the letter on properties that sell oil below posted price as well as on other leases selling at market, and pipe line companies handling the former oil on a common carrier basis would be responsible in seeing that production quotas were not exceeded.

Relief for Waggoner Refining Company, which has had a surplus of crude on its lines in Wilbarger County because of loss in crude sales to Wichita Falls refineries, was

(*Continued on page* 80)

Cut Allowable in West Texas and Panhandle

FORT WORTH, Texas. — Reduced nominations by crude purchasers in West Texas and Panhandle fields at the beginning of December has necessitated the enforcement of tighter restrictions on production allowances. The entire Panhandle district came in for a cut, while an even greater reduction is quite certain to occur when producers and purchasers meet in Fort Worth December 11 to iron out their congested market situation. Lease owners in the Howard-Glasscock County district accepted a reduction of more than 50 per cent in allowable production on December 1 rather than contribute to a break down of the West Texas crude price structure, while operators in the Yates field slashed 10,500 barrels from their output in order to allow production to conform with requirements of purchasers.

Loss of Tidal Refining Company as a general purchaser of crude in the Church & Fields area, Crane-Upton district, is to force the operators to start the new year off with a smaller allowance. A meeting of the latter is to be held in Fort Worth December 10 to take necessary steps to readjust connections that are to be surrendered by Tidal Refining Company. Other buyers in the area have indicated that they are unwilling to absorb added quantities of this particular grade of crude, and there is no other recourse than to cut the allowable. Winkler County has been threatened with a smaller production quota by the proration leaders, but action has been slow because of the unusual popularity of this crude with all buyers, while encroachment of water upon the oil and gas horizon is being given consideration.

Efforts of Cosden Oil Company to apply a flat price of 50 cents per barrel for all crude accepted for purchase in the Howard-Glasscock County district has been successfully combatted by the majority of the company's connections refusing to tender oil at the reduced figure. Cosden Oil Company nominated 6000 barrels as its daily requirements in December. This nomination was omitted from December proration allowance when producers refused deliveries. The district has a production quota of 14,541 barrels daily from 534 wells, or a daily average of 27.23 barrels per well, during December. An allowance of 26,666 barrels daily was proffered by purchasers in November, and actual production was 26,290 barrels daily for the month.

The accompanying table offers an interesting comparison on proration figures of the various fields in Texas and New Mexico that have a uniform plan of restricting crude output:

LATEST PRORATION DATA ON TEXAS-NEW MEXICO FIELDS

	No. Wells	Official Daily Pot'l Production	Maximum Daily Prod. Allowance	Percentage of Pot'l Prod. Allowed	Daily average yield Per Well
Texas Panhandle					
Gray County	736	87,135	42,253	48.49	57.41
Hutchinson County	942	22,562	14,903	66.05	15.82
Carson County	238	11,532	6,310	54.71	26.51
Moore County	21	875	497	56.80	23.66
Wheeler County	45	730	523	71.64	11.62
Potter County	1	7	7	100.00	7.00
Total	1,983	122,841	64,493	52.50	32.52
West Texas					
Yates	400	5,511,770	89,500	1.62	223.75
Crane-Upton	591	47,767	29,000	60.71	49.07
Howard-Glasscock Dist.—					
3000-foot wells	94	16,200	4,520	27.90	48.09
2500-foot wells	53	8,060	2,560	31.76	48.30
2200-foot wells	85	47,838	4,180	8.74	49.18
1800-1300-ft. wells	302	8,377	3,281	39.17	10.86
Total	534	80,475	14,541	18.06	27.23
Ector County	78	37,683	8,000	21.23	102.56
Winkler County	534	113,615	60,000	52.81	112.36
Total	2,137	5,791,310	201,041	3.47	94.08
Central East Texas					
Van	168	[1]335,952	27,260	8.11	162.26
Southwest Texas					
Darst Creek	232	165,804	30,021	18.11	129.40
Salt Flat	333	[2]19,153	15,333	80.06	46.05
Pettus Townsite	19	7,938	4,500	56.69	236.84
New Mexico					
Hobbs	130	1,010,356	30,031	2.97	231.01

[1]Potential via 11/16-inch choke.
[2]Potential as of November 4.

Producers, Purchasers, Pipe Line Men to Meet

PAMPA, Texas.—Decreased market outlet for crude produced in the Texas Panhandle has developed into a critical situation, and conditions have been pronounced as being worse in this area than any single district in the state. In response to an appeal made during the past week by operators to the Texas Railroad Commission and the central proration committee for Texas, a meeting has been called at Fort Worth on December 11 for a joint session between producers, crude purchasers and pipe line representatives.

Texas Panhandle has approximately 16,000 barrels of allowable production not served by pipe lines, or market outlet, according to R. D. Parker, chief supervisor of the oil and gas division. This production is mostly in Hutchinson, Gray and Carson Counties, and is scattered among 208 separate leases, with a combined total of 415 completed oil wells. Parker submitted the above figures in appealing to the central proration committee for Texas to take immediate steps for relief. He described conditions as being deplorable, and added that members of the commission plan to call for the enforcement of the common crude purchaser law if necessary. This law was enacted last spring, but has not been utilized.

Allowable production in the Panhandle was reduced from 70,000 to 64,616 barrels daily on November 25 by order of the commission, based on estimated crude demand of all purchasers. However, the complete withdrawal of Prairie Oil & Gas Company as a buyer in the Panhandle effective December 1, and decreased takings by a few of the other buyers have seriously complicated the proration program. Indications are that the allowable production for the district must be limited to less than 50,000 barrels daily, while the problem of providing new pipe line connections for properties that have been cut off by former outlets will be a much greater task. Active pipe line companies refuse to make heavy expenditures in providing additional lines to scatter their takings over a greater number of leases. An attempt may be made at the Fort Worth confer-

ence to induce disconnected well owners to join in laying temporary lines that can be tied into the systems of active buyers.

Proration figures on the Texas Panhandle released at the close of November by Umpire H. J. Corcoran credit the district with having 1983 oil producers that have a combined potential of 122,841 barrels daily. Wells are prorated on a 12-barrel marginal basis, and the district has 649 wells that produce less than 12 barrels daily. The latter group account for 4493 barrels of the potential output. Gray County is credited with an estimated potential of 87,135 barrels daily from 736 wells, while only 83 of these producers are below the marginal limit. The combined potential of the latter is only 525 barrels. A sharp contrast is offered by the old settled leases in Hutchinson County, which has 942 wells rated at 22,562 barrels daily potential, and 485 wells yield less than the marginal quota. These exempt wells have a potential of 3456 barrels daily.

The Sullivan area in western Gray County has not been counted out entirely as a possible source of flush production, even though four tests drilled near J. T. Harrell and others' of Wichita Falls big producer missed the prolific horizon in drilling past the 3000-foot level. It is quite certain that the area will not be uniformly productive, but possibilities still exist for a few locations now being tested to encounter proper conditions for the tapping of a heavy flow of oil at the contact point of the granite wash and lime formations. Empire Gas & Fuel Company's Sullivan 1, an east offset to Harrell et al's big producer, was drilling in dry hole below 3470 feet late last week. Phillips Petroleum Company's Agnes Barrett 1 was underreaming six-inch casing at 3080 feet, and Barrett 2 was drilling below 2900 feet, with 5,000,000 cubic feet of gas at 2825-35 feet.

Work Progressing Tubing Deep Wells at Big Lake

SAN ANGELO, Texas.—Mud and Baroid introduced by the Halliburton process was successful in killing the oil and gas flow in one of the record depth wells in the Big Lake field early this week. Group One Oil Corporation's University 2-B, which has been flowing about 2100 barrels high gravity oil and about 25,000,000 feet gas daily against back pressure, required 7460 sacks of mud and Baroid to lubricate off the production. This well has a total depth of 8489 feet and has open hole below 5914 feet, where 9⅝-inch pipe was cemented. The owners plan to set seven-inch casing at 8053 feet, and will probably deepen the hole before installing tubing to conform with recent orders of the Texas Railroad Commission.

Tubing has been installed in three of the deep producers, and tubing of one or two of two other producers will follow immediately. The six deep wells on production December 7 produced 11,125 barrels oil and 81,528,000 cubic feet of gas, or at the rate of 7328 feet of gas per barrel of oil. Back pressure ranging from 1200 to 1600 pounds is being carried on the casing of the tubed wells, while tubing pressure ranges from 400 to 950 pounds.

Eppenauer Drilling Company et al's Allen 1-A flowed 11 barrels per hour natural on initial test from Delaware formation at 4306 feet, thus giving the Wheat field, Loving County, an unusually large producer without being shot. This well is located in the south corner of the north quarter of Section 90, and blew in after drilling one foot into the lime on the night of December 5. Miller Burge et al's Chapman 1 failed to respond to shot at 4285-4326 feet, and will be deepened before shooting again. Phillips Petroleum Company's Wheat 2 flowed 340 barrels initial after shot at total depth of 4323 feet, and 225 barrels on second gauge.

EAST CENTRAL TEXAS FIELDS

Henderson County Test Revives Interest in That Area

TYLER, Texas.—Traces of oil encountered from upper section of the Woodbine horizon in Texas State Oil Company et al's wildcat test on the T. H. Skinner farm, located about six miles north of Athens, Henderson County, has given rise for a revival of interest in this area. The Skinner test topped Woodbine at 4400 feet, and developed show of oil in broken sand at 4403-07 feet, when deepened to 4441½ feet in sandy-shale did not score an increase in oil showings. It is to be deepened to the second Woodbine series. R. H. Dearing & Sons, Dallas contractors, are drilling this wildcat, and have a substantial interest in the operation. Several large companies are participating also.

Nineteen operations are underway in the Van field, including six tests that are scheduled to be completed before the next proration period. This field was credited with a potential production of 335,952 barrels daily from 168 producers on December 1. The above potential represents production through 11/16-inch choke, while the actual open-flow capacity of the field is rated far in excess of 1,000,000 barrels daily.

Two completions recorded within the past week were drilled on unitized leases of Pure Oil Company, and both were smaller producers than usually afforded by the Woodbine sand horizon in this field. Pure Oil Company's A. W. Ellison 2 flowed 528 barrels initial through 11/16-inch choke from sand at 2768-2957 feet after preliminary swabbing failed to bring on the natural flow. This producer is low on structure, having logged Austin chalk formation at 2640-2736 feet. The same company's Mary P. Neills 2 was credited with a similar initial yield from sand at 2810-2955 feet, with Austin chalk logged at 2450-2590 feet.

Humble Oil & Refining Company's R. S. Blake 5, an inside location in the Carroll section of the field and outside the unit plan, is reported to have drilled to the top of first Woodbine sand at 2596 feet in only five working days. Early this week the test was coring for a casing seat at 2600 feet. It logged Pecan chalk at 1950-1962 feet, and Austin chalk at 2344-2495 feet, with a surface elevation of 493 feet.

Stroube and Stroube's Frederick 1 has made slow progress in repairing damage to derrick and rig caused by fire on December 2.

This well was in process of completion at 3526 to 3568 feet, with total depth 3618 feet, when it caught fire from boilers. A few heads of oil and considerable gas assures the owners a commercial producer when the hole is cleaned of drilling fluid and tubing installed. No further progress has been made on the tests of Hunt et al and Tex Lloyd and associates while litigation has halted operations on Anderson and others' test.

Lease Trading Active

Lease trading has become active in the Joiner area since drill stem tests on three operations late in November revealed excellent prospects for commercial oil producers from the 3600-foot sand horizon, but only independent operators and companies are making the purchases. Oil payments figure prominently in most of the considerations in-

(*Continued on page* 74)

New Mexico and Rocky Mountain Area

Hobbs Active Drilling Reduced To Eight Wells

HOBBS, New Mexico.—Development work in the Hobbs field proper has been reduced to eight active operations, including two tests that are attempting to effect minor extensions to the productive area on the east and west sides. Continental Oil Company scored an unusually heavy producer early this week from an outside location on the southwest side of the field by completing its State 1-C with an estimated potential of 19,440 barrels daily, plus 12 per cent drilling fluid, and about 15,000,000 cubic feet of gas at 4178 feet. This well is located at the center of the NW SE Section 5-19s-38e. Three-inch tubing was lowered to 4125 feet. The drilling crew reported loss of first rotary returns at 4040 feet.

Efforts of National Securities Oil Corporation of California to extend the Hobbs field about four miles to the west, or develop a separate producing area, commanded attention during the past week when small oil and gas showings were encountered at levels comparable to the shallow horizon in the Hobbs structure. This concern's V. Linam 1, located 990 feet from the south and 2310 feet from the west lines of Section 33-18s-37e, encountered first show gas at 2999 feet, followed by a showing of oil and gas at 3040 feet, with an increase in gas at 3060 feet that blew the tools up into the uncased hole. Drilling has been resumed. Correlation of the key formations logged by this test with those in the field proper indicate close conformity. Linam 1 logged top anhydrite at 1580 feet, and first salt at 1716 to 2650 feet, while top of brown lime was reported at 2956 feet, with a surface elevation of 3709 feet.

Midwest Refining Company's Turner 29, located in the SWc Section 34-18s-38e, and more than one-half mile east of the nearest production, is assured of a producer in the Hobbs shallow horizon through having flowed about 180 barrels high gravity oil during first 18 hours from lime at 3198-3214 feet. It is being deepened to the regular 4200-foot horizon. This company has installed tubing preparatory to completing its McKinley 26 from lime at 4000-4208 feet. The Texas Company's State 3-C, an extreme west location for the field, is also ready to complete after drilling to 4220 feet. Humble Oil & Refining Company's State 3-A, a south offset to the above test, recently gauged 2786 barrels oil and about 2,000,000 feet gas from lime at 4150-4220 feet, while the same company's State 2-A, located in the SEc Section 25-18s-37e, made a potential rating of 3960 barrels oil and 3,000,000 feet gas at 4150-4230 feet. Amerada Petroleum Corporation's 1-C is being started as a south offset to the latter completion, while Continental Oil Company's State 1-E has been ordered drilled as a west offset to The Texas Company's State 3-C.

Landreth Production Corporation et al's State 1-C, NEc NW Section 6-19s-38e, is drilling below 2560 feet, and should this outpost test make a good showing upon completion it will require offsets by Shell Petroleum Corporation, Atlantic Oil Producing Company and Vacuum Oil Company.

Allowable production in the Hobbs field for the first proration period in December increased to 30,031 barrels daily, according to figures released by Umpire C. G. Staley. The field has 130 completed wells on 116 40-acre units, including 10 units that have two producers, and one that has three wells on same. The average unit potential for the field increased to 1,010,356 barrels during the past 15-day period. Combined potential production of all wells is in excess of 1,100,000 barrels daily. Total crude runs from the field since the inauguration of proration on July 10 is reported as being 4,204,531 barrels.

Pure Oil Making Core Tests in Wyoming

Casper, Wyo.—Pure Oil Company is making an intensive study in this state of the oil and gas possibilities in territory hitherto untested. A corps of four geologists is making a survey of Converse and Niobrara Counties at the present time; and last summer the company took over a large amount of acreage in Campbell County. The structures in this territory are all pretty well overlaid with Tertiary, and a great deal of core drilling is necessary to locate the "high" which may prove geologically correct.

Iles Dome Test Rumored

Craig, Colo.—There is a rumor here carrying some authority that Midwest Refining Company plans to drill a deep test on the Iles Dome, southwest of here some 20 miles, early next spring. This test would be carried through the Sundance to all of the possible producing horizons in the Pennsylvania series. The Pennsylvanian, it is expected,, would be reached around 4600 feet.

To Test Garland Structure

Byron, Wyo.—S. C. Ferdig, prominent in the development of oil fields in Montana and Northern Wyoming, has started a rotary test on Montana-Wyoming Oil Company's properties on Garland structure, north of this town, which was recently proved for production in a test completed by Ohio Oil Company. Black oil production was found at 4424 feet in a well which tested 1000 barrels, and which was shut in pending the development of a market.

Continental Takes Over Lodge Grass Test

Billings, Mont.—Continental Oil Company has recently taken over the test started by Embar Drilling Company four years ago on Lodge Grass structure, 92 miles by road from here. The test is three miles west of the town of Lodge Grass, and has reached a total depth of 3056 feet. It is now believed that another 150 feet of drilling will put the bit into the Dakotas, below which there are several possible producing sands. The new contract will require that the well be drilled 1000 feet deeper. Continental Oil Company has been identified in Montana operations with the development of the Cat Creek field in the past.

Seek to Sidetrack Bit in Park County, Wyoming, Test

Billings, Mont.—Resolute Oil Corporation has been unable to recover bent bit in its 8250-foot hole in discovery well on Badger Basin structure, Park County, Wyoming. Company

AMONG THE CONQUERORS OF INACCESSIBLE PLACES

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has therefore decided to run casing, which is now on location. After cementing the same an attempt will be made to sidetrack the bit and drill into the sand—believed to be the first Frontier—which is producing considerable fluid testing 44.6 gravity and through which a constant flow of wet gas is coming. Storage sufficient for 5000 barrels is erected.

This test is the deepest ever to have been drilled in the Rocky Mountain region. It is cased to 4150 feet and has been drilled with an eight-inch hole to the present total depth.

It is interesting to note that Ohio Oil Company's first discovery in its new Dry Creek field, extreme Southern Montana and not far from the Badger Basin structure, was made in the Frontier and was also a gas discovery. Upon drilling its second test the company penetrated the Dakota where it encountered a very excellent production of high grade crude.

Operators in Montana and Wyoming who have watched the two developments see much similarity between them, and believe that other structures in this territory will be found to be highly productive on deeper drilling.

Joint Meeting of Alberta-Montana Oil Men Scheduled December 12

Great Falls, Mont.—The program of the joint convention of the Alberta and Montana chapters of the Rocky Mountain Oil & Gas Association, to be held here December 12 and 13, at the Rainbow Hotel, has been arranged as follows:

Friday, December 12

Forenoon: Address of welcome by R. C. Bricker, secretary, Great Falls Chamber of Commerce; president's address, Donald Campbell, Rocky Mountain Oil & Gas Association; appointment of committees; and geological paper by E. B. Emrick, consulting geologist.

Afternoon: Meeting of Montana-Wyoming-North Dakota refiners and jobbers; meeting of directors of state committees of code of marketing practices; principal speakers: Frank L. Cochran, assistant general manager Standard Oil Company (Indiana), Denver; and Elwin E. Hadlick, secretary, Northwest Petroleum Association, Minneapolis. Group meetings of producers, taxation and legislative committees.

Saturday, December 13

Forenoon: Program in charge of the Alberta chapter. President's address, P. D. Mellon; brief talk on "Comparison of Oil Possibilities in Montana with Alberta Including the Occurrence of Oil in Devonian Rock," by Benjamin F. Hake, chief geologist, Nordon Corporation, Ltd.; paper, "Operating Problems in the Red Coulee Field," by Dr. Russell Johnson, consulting geologist; "Legal and Political Aspects of the Oil Industry in Alberta," by D. Austin Lane, editor, Oil and Financial Review; "Reminiscence of Early Development Turner Valley Field," by W. E. McLeod, production superintendent, Imperial Oil Company, Ltd; and possibly a paper by Dr. Allen, chief geologist, Province of Alberta.

Afternoon: Address, "What Lies Ahead for the Small Operator," by W. M. Fulton, president, Montana division, Independent Petroleum Association of America; paper, "Natural Gas Resources of Montana," by Dr. Eugene S. Perry, head of geology department, Montana School of Mines; address "Oil Tariff," by Harry Rogers, president, Exchange National Bank of Tulsa, Oklahoma; election of officers and report of committees.

The evening of the second day features the initiation into the Order of Wildcats, the banquet and dance in the Palm room of the Hotel Rainbow.

HENDERSON COUNTY TEST REVIVES INTEREST IN THAT AREA
(*Continued from page* 71)

volved in the transactions. These deals herald an active development program for the area as long as production in attractive quantities is obtainable.

H. L. Hunt of Henderson, Texas, and associates have contracted to purchase a major interest in approximately 4000 acres of leases scattered over the Joiner area from C. M. Joiner of Dallas and others for a consideration of about $1,000,000. It is reported that a cash sum of $24,000 is payable upon approval of titles, and an additional cash sum of $45,000, payable in four notes within 270 days. The oil payments aggregate approximately $910,000, but this obligation is reported to be contingent upon each lease paying its prorata part. Hunt formerly operated at El Dorado, Arkansas, and is well known in Arkansas and Louisiana fields. He has a four-inch pipe line ready to transport oil from the Joiner area to a 10-car capacity rack on nearby railroad, and will provide market outlet for oil produced.

Haynes Drilling Company of Shreveport is reported to have acquired lease on the south 40 acres of the L. B. Minor 76-acre tract, M. Prue Survey, paying $350 per acre, cash and a like amount in oil. W. T. Knight of Wichita Falls and others are credited with having acquired leases on a 16¼-acre and a 5¼-acre tract from Alford et al for $17,500 cash and $12,500 payable in oil. Deep Rock Oil Company, Fort Worth, has contracted to purchase the north 40 acres of the W. P. Brett 81½-acre tract, M. Prue Survey, paying $300 per acre cash and $200 per acre in oil. C. Rosenfield of Fort Worth and others have made deal for financing the deepening of their Pinkston 1, which was the first test started in the Joiner area after discovery of oil, but operations were halted at 2015 feet. It is reported that Arkansas Fuel Oil Company, Kirby Petroleum Company, Cranfill-Reynolds Company, Geo. Lyles and others agreed to share in the cost of carrying this test to the Woodbine horizon.

Joiner et al's discovery well on the Daisy Bradford farm is flowing an average of 150 barrels daily through tubing from at total depth of 3592 feet, and has yielded about 10,500 barrels during the first two months that it has been on production.

Drilling of cement plug in Frank Foster and Deep Rock Oil Corporation's C. D. Ashby 1, which was reported last week as having flowed by heads when given drill stem test at 3597-3614 feet, is scheduled for December 10. Lease tankage has been erected to accommodate an open flow test.

Midwest Officials Moved to Denver Office

Casper, Wyo.—The heads of various departments of Midwest Refining Company have recently been transferred to the Denver offices from Casper. They include George H. Jacques, vice president and general manager; H. W. Ladd, superintendent of equipment; Miss Gertrude Converse, private secretary to Mr. Jacques; A. G. Fidel, purchasing agent, his assistants, Carl Young and R. K. Nichols, and his secretary, Mrs. Katherine Jamieson; J. J. Zorichak, petroleum engineer, and Earl Fry of the petroleum engineering department; and B. F. Fehlman, assistant auditor. J. B. Barnes, Jr., of the law department, has already been transferred to Denver, where he has been made general attorney for the company. Harry Bossart, assistant general superintendent, has been transferred to Billings, Montana, where he is to be in charge of the new division recently organized there by his company.

Gulf Coast and South Texas Fields

JACK LOGAN, *Staff Representative, Houston, Texas*

Potential Production at Pettus Shows Decline

HOUSTON.—Recent gauging of the 19 producing wells in the Pettus townsite district, Bee County, showed a daily potential production of 7938 barrels as compared with 11,408 barrels for 15 producing wells when the gauge was taken on October 26. Gauges were made on a 5/8-inch choke.

The potential production as shown by the last gauging increases the daily allowable production from 39 per cent of the potential to 56 per cent. This increase is believed to be due to the dissipation of natural gas from the producing horizon and not from a natural decline of the production.

This overproduction of gas in relation to the amount of oil produced has resulted in three of the wells in the townsite being placed under the field's proration schedule by the railroad commission. The wells were found to be producing with the following ratio: Glasscock 1 of the Houston Oil Company, 35 barrels of oil to 6,250,000 cubic feet of gas; No. 1 of the same company, 124 barrels of oil to 2,750,000 cubic feet of gas; and Slick Estate's 1, 112 barrels to 3,500,000 cubic feet of gas. The average wells of this district have been producing 1950 cubic feet of gas for each barrel of oil. The order requires that the owners of the wells shall take such steps as the commission shall direct in the event the waste of gas is not stopped immediately.

The potentials and allowables for the field which is still being produced at the rate of 4500 barrels daily, is as follows:

Company—		Well	Potential	Allowable
C. R. M. Oil Company	Block	34	445	252
C. R. M. Oil Company	Block	22	452	256
Humble Oil & Refining Co.	McKinney	5	423	240
Humble Oil & Refining Co.	McKinney	6	589	334
Humble Oil & Refining Co.	McKinney	7	289	164
Union Producing Company	Ray	15	620	352
Union Producing Company	Ray	18	504	286
Union Producing Company	Ray	19	567	321
Union Producing Company	Ray	20	609	345
Union Producing Company	Ray	23	798	452
Houston Oil Company	Block	23	248	141
Houston Oil Company	Block	35	372	211
Houston Oil Company	Block	36	548	311
Houston Oil Company	Block	33	124	70
Slick et al	Block	37	429	243
Slick et al	Block	19	106	60
Al Buchanan et al	Block	20	496	281
Al Buchanan et al	Block	38	289	164
Glasscock Bros.	Block	24	30	17

Drill stem tests made on Simms Oil Company's Holzmark 2 showed a quantity of wet gas at 3542-3562 feet. This well is located 660 feet north and 20 degrees east of Holzmark 1 which is the discovery well of a wildcat territory. Holzmark 1 opened up the new area five miles southwest of the Nichols field with an initial gas flow of 56,000,000 cubic feet from 10 feet of producing sand. The new well does not show any indications of being this large but it has 20 feet of producing sand and should prove to be a good well.

Present indications point to the opening of two new gas fields in Goliad County with drill stem tests having been made on Union Producing Company's Ray 27, a wildcat well that showed 825 pounds dry gas pressure in eight minutes at 4252-4261 feet, and Slick et al's Poetter 1, another wildcat located on the Goliad-Dewitt County line, which made 450 pounds gas pressure in four minutes from sand at 4198-4209 feet.

Matagorda County Has Two Interesting Developments

HOUSTON.—Matagorda County in the southwest portion of the Gulf Coast oil country has furnished interesting developments during the past several weeks in two separate areas—at Shepherds Mott and at Citrus Grove. Both areas have been regarded for years as prospective oil country, and present development is on the basis of torsion balance surveys made during the past two or three years indicating existence of deep salt domes.

On the Shepherds Mott prospect Cockburn Oil Corporation's Hawkins 2 has given promise of developing oil production, but on December 9 it was still in an incomplete stage. Total depth of the well is 5244 feet, and it has nine feet of oil sand at the bottom, with broken sand and shale with oil show above that to 5216 feet. After cementing of casing, 68 feet of 4½-inch screen was set, and from Friday night, December 6, 1930, to Sunday evening the well had produced about three barrels of 37.2 gravity oil with wash water. It is believed that in attempting to seal off the liner the screen was pulled some distance off bottom.

Location of Hawkins 2 is 6336 feet south and 2700 feet west of the northeast corner of the F. Fry Survey. It is believed that a double-dome exists here, judging from indications through the torsion balance survey, and the present test is on the reported north dome. It is 2700 feet due west of Cockburn Oil Corporation's Hawkins 1, Fry Survey, which was reported to have several oil shows, but which was abandoned about July 15, 1930, in heaving shale at 6150 feet.

On the "south dome" Crossland et al's Hawkins 1, Daniel McCarty Survey, had gas show at 2625 feet, and oil shows at 3800 and 4800 feet, but it was abandoned after encountering heaving shale at 5200 feet.

On the Citrus Grove prospect, southwestern Matagorda County, 15 miles southwest of Shepherds Mott, and about eight miles due west of Big Hill (Gulf), Empire Gas & Fuel Company is preparing to sidetrack stuck drill stem in Boker 1, which several weeks ago developed gas production while drilling at 6250 feet. It was believed that two feet of sand had been penetrated when the well blew out, making dry gas. It was never allowed to get out of control, however, and was killed with the intention of coring ahead farther into the sand; but drill stem was then stuck. The last string of casing is nine-inch, cemented at 5383 feet. Location of the well is 25 feet east and 425 feet north

of the southwest corner of Lot 14, Robbins & Middle Subdivision, J. J. Criswell Survey.

As at Shepherds Mott, the torsion balance survey here was made by North American Exploration Company for Cockburn Oil Corporation, and the latter obtained leases covering both prospects. But at Citrus Grove Cockburn Oil Corporation turned its holdings to Empire Gas & Fuel Company for development, and that company now has a 7000-acre block. The present test is near the top of the structure.

Deepen Duval County Well After Testing Salt Water

Houston.—After testing salt water through drill stem test in a sand at 1749-1755 feet, The Texas Company was drilling ahead at 1860 feet early this week in its Duval County Ranch Company Fee 1, a 625-foot east offset to the wildcat producer, Duval County Ranch Company 1, of S. R. C. Oil Company and Vacuum Oil Company in northwestern Duval County.

While the well of The Texas Company was being tested the discovery was temporarily shut in as a precautionary measure, but it will be placed back on production now. The well came in at 1730-1736 feet producing around 300 barrels of 20.5 gravity oil daily, and at the time it was closed in it had been yielding around 200 barrels daily partially pinched.

A comparison of the sand depths in the above wells shows that the test of The Texas Company is lower on the structure, being apparently too far east for production. Aside from those wells only one other has been drilled in the area, the No. 2 of S. R. C. Oil Company and Vacuum Oil Company on the discovery lease, which was drilled into the fault along which the discovery well production was found. No. 2 was located 575 feet west and 600 feet south of No. 1, and it was abandoned dry at 1906 feet.

Consideration of the above facts reveals that development of the structure is only in a preliminary stage, and while the two tests drilled following completion of the discovery well have not been successful from the standpoint of developing further production, they give some valuable data on the sub-surface, which will aid in properly locating further tests.

Vacuum Oil Company's Duval County Ranch Company A-1, located six miles southwest of the wildcat producer, has reached the depth of 55 feet, but on December 9 it was shut down, pending drilling of a water well.

Bloomington Test in Victoria County Is Abandoned

Houston.—On the Bloomington prospect in southern Victoria County The Texas Company tested salt water at 6670 feet in McFadden 1, and the well has been abandoned at 6685 feet. This test was in the Hannibal Bonney Survey, 4000 varas west of the Lion Oil Refining Company gas well, McFadden 1, and 16,000 varas southwest of Bloomington. Several other sands were tested in the well, proving dry or showing salt water. At 3700 feet there was a slight showing of gas on drill stem test, along with salt water.

Lion Oil Refining Company's McFadden 1, in the M. Traviesa Survey, came in last summer as a 36,000,000-foot gas producer at 3743-49 feet and as the discovery well of the area, but as yet further drilling efforts in the area have been unsuccessful. The same company's McFadden 2, located 660 feet due east of No. 1, was drilled through the gas sand, tested salt water in several sands, and reached 6450 feet, where drill stem was stuck. The well has been plugged back and casing will be milled out to test the 3760-foot gas sand.

Another test that has been drilled in the area without success was Houston Oil Company's McFadden 1, located 1¼ miles from Lion Oil Refining Company's producer, just out of the southeast corner of the C. L. Mann Survey. A drill stem test in a sand at 3770 to 3778 feet showed salt water.

Test of Polk County Well Shows Favorably

HOUSTON.—Sunshine Oil Company was preparing early this week to bail its Collins 1, Polk County test located six miles south of Livingston. With total depth of the hole at 3323 feet, 92 feet of 4½-inch screen were set with two packers. On washing only a small amount of oil was developed, although the well had previously showed up favorably on a drill stem test, and it was therefore decided to run a bailer. Oil which was recovered in the preliminary test was high in gravity.

This well is located in the northeast portion of the A. Viesca Seven League Survey. It is 800 feet west of Sunshine Oil Company's Chase 1, wildcat producer completed originally in February, 1930. That well was rated as a 50 to 75-barrel per day producer, and it was kept on production as a pumping well for a considerable period, although it has been shut in during the immediate past because of lack of storage facilities. Oil from the well is being used in drilling the present test.

Chase 1, the producer, is located a short distance west of the Livingston-Poth road, on a 20-acre tract. It had a total depth of 3264 feet, but did not go far into the sand. Only one joint of screen was used in it.

The present well, Collins 1, as previously stated, is 800 feet west of the discovery well, and it encountered the top of the oil sand 50 feet higher. A considerably greater thickness of the sand was penetrated also.

Aside from the above named two wells, there has been one other well drilled in the area: Sunshine Oil Company's George Palmatier 1, located several thousand feet east and somewhat south from the wildcat producer on a 100-acre tract. It was drilled to 4200 feet, and no showings were encountered. That dry hole helped to disprove a formerly held opinion that the producing well was possibly on the west flank of a salt dome. The general opinion now—substantiated by the data found in the present test—is that the structure here is a northwest-southeast trending fault; and that the discovery well was on the east side of the fault, while the present test is even higher on the structure. At the surface there is a ridge which constitutes the surface indication of folding on which the first oil prospecting was based.

Sunshine Oil Company was originally financed by various individuals from northern states, but Polk County capital has since become interested in the company. It has total holdings in the area of about 5000 acres, not all of that being in a single block. Various independent operators have close-in acreage, and several major companies have also bought holdings in the district, including Sun Oil Company, Gulf Production Company, Humble Oil & Refining Company and Kirby Petroleum Company.

Seeks Capital Stock Increase

Austin, Texas.—Barbers Hill Salt Water Company, Houston, has obtained permission from the state to increase its capital stock from $4,000 to $6,000. The company handles salt water in the Barbers Hill salt dome field, Chambers County.

A Revolutionary Development In Pipe Threading Machines

The panel at the right headed "Features" contains a message of *vital importance* to every man interested in or identified with the operation or purchase of pipe-threading equipment.

This is emphatically not an ordinary "new model" announcement. It is the introduction of a *new standard* in pipe-threading speed, convenience, economy and dependability.

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FEATURES

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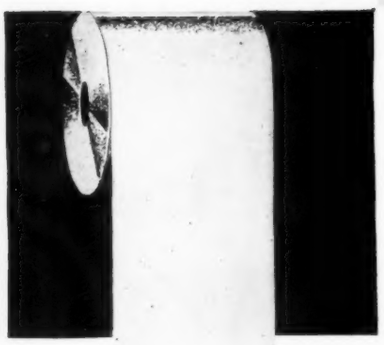

Alcoa Aluminum Foil tried in West Texas—Here's what happened

Evaporation losses from tanks and tank cars mount so high that they represent a huge sum of money to the oil industry. Alcoa Aluminum Foil for tank protection has attracted widespread interest, because this coating promises to substantially reduce these losses.

Here are the results of a test covering a 4½ months period on five 80,000 barrel tanks in West Texas—each tank filled with Winkler County Crude.

How painted	*Temperatures during a typical 24-hour period* MAXIMUM	MINIMUM	CHANGE
Not painted	127	83	44
Aluminum paint, roof and shell	111	82	29
Aluminum paint, roof and top ring; red paint shell	113	84	29
Aluminum painted shell; insulated roof	105	86	19
Aluminum foil roof; Aluminum painted shell	102	83	19

Easily applied, Alcoa Aluminum Foil will save you many times its cost. In addition to saving oil, it checks rust formation on tanks, tank cars and pipe lines, thus greatly reducing maintenance expense by providing a protective coating.

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Louisiana--Arkansas Field Notes

Zwolle Has Seven Locations; Extension Test Spraying

SHREVEPORT, La.—Half a mile north of the recently opened 1½-mile southern extension of the Zwolle east field, in Sabine Parish, Louisiana, H. W. Perritt's Bowman-Hicks 1, SE SW NE Section 2-7-12, blew out Thursday, December 4, making 3,000,000 feet of gas and a spray of oil from Zwolle chalk at 2285 feet after 6⅝-inch casing had been set at 2253 feet. The drill stem fell in the hole and efforts are being made to get it out to drill a few feet deeper.

The well is a half mile north of the three producers of Pelican Natural Gas Company in Section 11-7-12, and is a quarter-mile north of Loring Oil Company's Bowman-Hicks 13, in the southeast quarter of Section 2-7-12, which was a dry hole.

A half-mile east of production, in the Zwolle east field, A. H. Teat is abandoning Craig 1, NE NE Section 25-8-12, after repeated efforts to get production in the Zwolle chalk. Total depth is 2650 feet. Zwolle marl was topped at 2329 feet, where 6⅝-inch casing was set.

Eylers Oil & Gas Company, on Sunday, December 7, was bailing Fraser 1, NW SW Section 10-8-11, at total depth of 2385 feet in chalk, the Zwolle marl having been topped 200 feet high at 2160 feet, elevation being 317 feet. This well is five miles northeast of Zwolle east field production. Considerable oil showed in the Nacatosh broken formation just above the marl. Eight and a quarter-inch casing was set at 2150 feet.

Nine miles south of Zwolle, Toteco Oil Company's Louisiana Long Leaf 1, Section 18-6-12, a deep test, showed 100,000 cubic feet of gas through drill stem in eight feet of sand at 4245 feet, along with a trace of salt water, and the well is drilling ahead. Six miles south and a mile west of the Zwolle west field (Blue Lake), Loring Oil Company's Nona Mills Lumber Company 1, James Mason Survey, Sabine County, Texas, was coring at 4670 feet on December 7.

Zwolle, as usual, led other North Louisiana fields during the last week with new locations, seven new tests having been launched. Pelican Natural Gas Company's Sabine Lumber Company 6, Section 11-7-12, a 660-foot east extension of the south Zwolle field, which came in November 29 flowing at an estimated rate of 3000 barrels daily through seven-sixteenths-inch choke, gauged 2016 barrels for the first 24 hour gauge secured flowing through the choke.

Holly Field, De Soto Parish, Gets Large Gas Well

Shreveport.—Half a mile northwest of oil production in the Woodbine sand producing field in Holly, De Soto Parish, Louisiana, Standard Oil Company of Louisiana's Dowling Brothers B-1, SW SW Section 32-14-13, blew out at 2829 feet, during the last week, making 30,000,000 cubic feet of gas and a spray of oil from 13 feet of broken sand; 6⅝-inch casing had been set at 2813 feet. Arrangements are being made to lubricate and deepen. The same company has derrick up for Hoell 1, a new location in the same section.

Prairie Oil & Gas Company, drilling a 5000-foot wildcat test in northeast Claiborne Parish, Louisiana, in F. B. Shackelford 1, SE NE Section 30-23-5w, is drilling below 2865 feet after topping the Blossom at 2729 feet. Louisiana Oil Refining Corporation, which had to junk its first hole in a 4000-foot test on Langston 10, Section 19-21-7w, is drilling at 1470 feet in the new hole.

T. G. Shaw is setting two-inch tubing on top of packer in Wilkinson 1, SE SE Section 4-12-10w, Red River Parish, half a mile outside production in Bull Bayou, where 700 feet of oil is standing in the hole; total depth is 2838 feet. Plans to deepen apparently have been abandoned.

In Central East Louisiana where a well was completed making 3,000,000 to 6,000,000 feet of gas at the 1400-1500-foot zone in the Jackson, and later deepened and abandoned, Louisiana Gas & Fuel Company has rig up for Saunders 2, Section 42-8n-10e, Concordia Parish, on a big block recently acquired from A. C. Glassell and associates.

Two New Wells in Champagnolle Area

Shereveport.—The recently revived southeast part of the Champagnolle (Rainbow City) field of Union County, Arkansas, accounted for two new wells during the week ending December 7. Both wells were completed December 6, by Lion Oil Refining Company on the Sullivant lease.

Sullivant 1, Section 12-17-14, December 7 was flowing 1200 barrels of fluid daily, 25 per cent salt water, and along with 2,500,000 feet of gas from total depth of 3013 feet. Sullivant 1 was completed two days before as a 12,000,000-foot dry gasser at 2993 feet with 11 feet of sand after 6⅝ inch casing was set at 2980 feet. Sullivant 2 is making 250 barrels of clean oil and 15,000,000 cubic feet of gas at 3011 feet. It is also in Section 12-17-14.

In northwest Arkansas, Lavaca Oil and Gas Company completed Davis 1, Section 27-8-30 as a 1,500,000 foot gasser with 260 pounds rock pressure at 2885 feet.

A. B. Turner's Brown 1, Section 23-15-18, an outside well in the Mount Holly field of Ouachita County, Arkansas, tested a hole full of salt water in 14 feet of sand Sunday, December 7, at 2178 feet and will be drilled deeper. Six and five-eighths inch casing was set at 2164 feet.

One new location was made in Arkansas during the week, this being John James, Trustee's Fordyce Lumber Company NW NE NW Section 11-9s-15w, Dallas County, a rank wildcat.

Trinity Gas Field Extended to North

Shreveport.—The Trinity zone gas field opened early this year by Triangle Drilling Company and associates in the Sugar Creek district of Claiborne Parish, 18 miles southeast of the old Homer oil field, was extended approximately three-fourth of a mile north, Sunday, December 7, when Triangle Drilling Company's Brownfield 1, NW NE Section 6-19-5w, was bailed in from oolitic lime gauging 30,000,000 cubic feet daily with 1720 pounds rock pressure for 20 minutes. Total depth is 4392 feet, the oolitic lime of the upper Trinity having been topped at 4364 feet. While no analysis of the gasoline content was made immediately it is certain that the gas will run high in gasoline content as the four preceding Trinity zone gassers there have done,

the content in other wells having ranged from 1300 to 1900 gallons per 1,000,000 cubic feet of gas. Standard Oil Company of Louisiana and Louisiana Gas and Fuel Company are one-third owners each of the wells and the surrounding 8,000 acres with the Triangle Drilling Company. D. L. Perkins and J. Y. Snyder are the geologists.

Two New Gas Wells Brought In for Jackson Area

JACKSON, Miss.—Both the northeast and southeast parts of the Jackson gas field furnished a new gasser during the week ending December 6, one new gas producer being completed in Hinds and Rankin Counties. The new Hinds County gasser, whose yield is estimated at 30,000,000 cubic feet, was completed at an estimated depth of 2393 feet by Love Petroleum Company in Morton Lumber Company 1, SW SW Section 34-6-1e, Hinds County; 6⅝-inch casing having been set around 2390 feet, which is believed to have been top of the Midway chalk. Union Drilling Company of Monroe, Louisiana, which took over the well from the original owners, Wallace Oil & Gas Company, completed Cobb 1, NE SE Section 12-5-1e, Rankin County, at 2380 feet, gauging 48,552,340 cubic feet of gas. It is understood this well is to be sold to a creosoting company for $15,000 and its output used as fuel. Top of the Midway shale was 2290 feet, top of the Midway chalk was 2375 feet, where 6⅝-inch casing was set; elevation was 269.6 feet.

Two new locations were announced during the week, Atkinson and Dyer's Downey 1, Section 27-6-1e, Hinds County, and Iowa Gas Company's Payne 1, Section 15-5-1e, also in Hinds County.

Gulf Refining Company has succeeded in dislodging a frozen drill stem in Hamilton 1, SW SW Section 4-5-2e, Rankin County, two miles northeast of production, and is drilling sand shale at 3120 feet. This well, whose elevation is 284 feet, checked low, topping Midway shale at 2537 feet and chalk at 2620 feet, and topped red beds at 3059 feet.

Arkansas-Louisiana Pipe Line Company's Moore 1, SE NW Section 2-15n-5e, Attala County, North Mississippi, whose elevation is 271 feet, reached base of the Selma chalk at 3028 feet after topping this formation at 2277 feet.

J. D. Collett and associates are skidding over 45 feet south for a new hole for Blackmer 1, SE NW Section 14-11s-4w, Yalabousha County, after having had a long fishing job for frozen six-inch drill stem, all of which was finally recovered. Total depth of the old hole is 2434 feet.

United Gas Company, which recently acquired the Jackson-Mobile gas line from Southern Natural Gas Corporation, is pushing work on an extension from Mobile to Pensacola, Florida. Final details of the transfer of the properties in Mississippi and Alabama to the new owners is December 31. Reports are current here that gas producers here have been offered four cents per 1000 cubic feet at the well for their output on a five-year contract basis. It is believed that United Gas Company will take some of the Jackson Gas for its Atlanta, Georgia, trunk from Monroe, Louisiana, after the formal transfer of the line has been completed from Southern Natural Gas Corporation.

Completes Good Well at Humble

Houston.—The Texas Company's Pipe Line Fee 2 on the west flank of Humble dome came in early this week flowing by heads, producing pipe line oil at estimated rate of 400 to 500 barrels daily. The hole had been drilled originally to 4397 feet, but was sidetracked and screen was set at 4293 feet. Another recent completion at Humble is John Deering's Bennett 2, which was finished as a 25-barrel pumping well at 4069 feet.

Bienville Parish Gets Two Failures During Week

Shreveport.—Hope of getting production in the Nacatosh sand at the 2200-2300 foot zone in the Gibsland wildcat district of Bienville Parish, Louisiana, was given a double set-back during the week ending December 7 when two dry holes were completed in that area. Triangle Drilling Company and Ruston Drilling Company which last July took over McDermott 1, Section 28-18-6w, from original owners after the well had tested 10 feet of oil and much drilling mud at 2258 feet through drill stem, later set casing in the well, bailed dry and drilled to total depth of 3160 feet without getting oil. Recently the well was whipstocked at 2060 feet and drilled to 2178 feet where it again tested dry and was abandoned. Six and five-eighths inch casing was originally set at 2174 feet. Olds and Smith also abandoned Brice 1, Section 15-18-6w, as a dry hole at total depth of 2230 feet, 6⅝ inch casing was set at 2156 feet. The Cane River was topped at 530 feet.

INCREASED CRUDE PURCHASES AID NORTH AND CENTRAL WEST TEXAS

(*Continued from page 69*)

obtained at the meeting. D. A. Little, vice-president, Magnolia Petroleum Company, announced that his company would take for purchase 1000 barrels oil daily from the above company, and that in addition his company has taken on within the past week about 500 barrels of production for purchase from operators in the Electra area. Dan Mahoney, Texas agent for Stanolind Crude Oil Purchasing Company, stated that his company would absorb the remaining 700 barrels of surplus oil held by Waggoner Refining Company.

Continental Oil Company's outside connections in the district have been limited to a flat quota of about 2½ barrels daily per well, regardless of depth or potential yield of wells, rather than sever connections and leave operators without any relief. Arrangements were completed for this company to gather and deliver 1000 barrels daily to Stanolind Crude Oil Purchasing Company, but operators are to be charged 7½ cents per barrel gathering charge by Continental Oil Company. Such a plan will permit all connections on the latter company's system to receive a more equitable proration allowance, and the net price paid for the oil will be considerably more than could be obtained by selling to refiners. The bulk of the crude turned back December 1 by Simms Oil Company on the Archer-Young County line was assigned to The Texas Company and Humble Oil & Refining Company at the meeting. E. H. Eddleman, manager of American Refining Properties, Inc., stated that the dumping of Texas Panhandle high gravity crude at distress prices on the market in the Wichita Falls refining center has displaced considerable North Texas oil from its normal outlet. He explained that when his company, Dale Oil & Refining Company and Iowa Park Producing & Refining Company adopted a flat price schedule of 65 cents per barrel for crude at the well, or 85 cents delivered at plants early in December, the move was necessary to continue plant operations. A loss of about 30 cents per barrel would be sustained should his company pay regular posted prices, plus usual transportation charges, according to Eddleman. He added that the recent collapse of the fuel oil market to a level that railroads are stocking up at 25 cents per barrel has been a hard blow for refiners.

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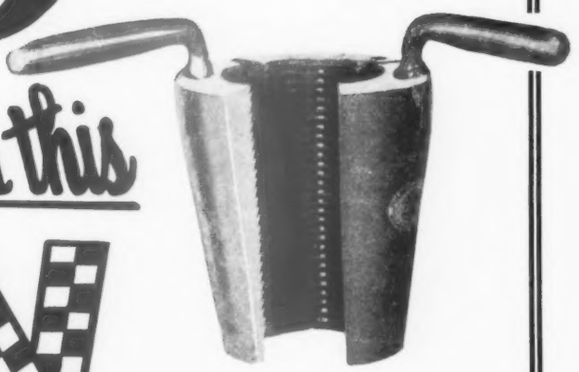

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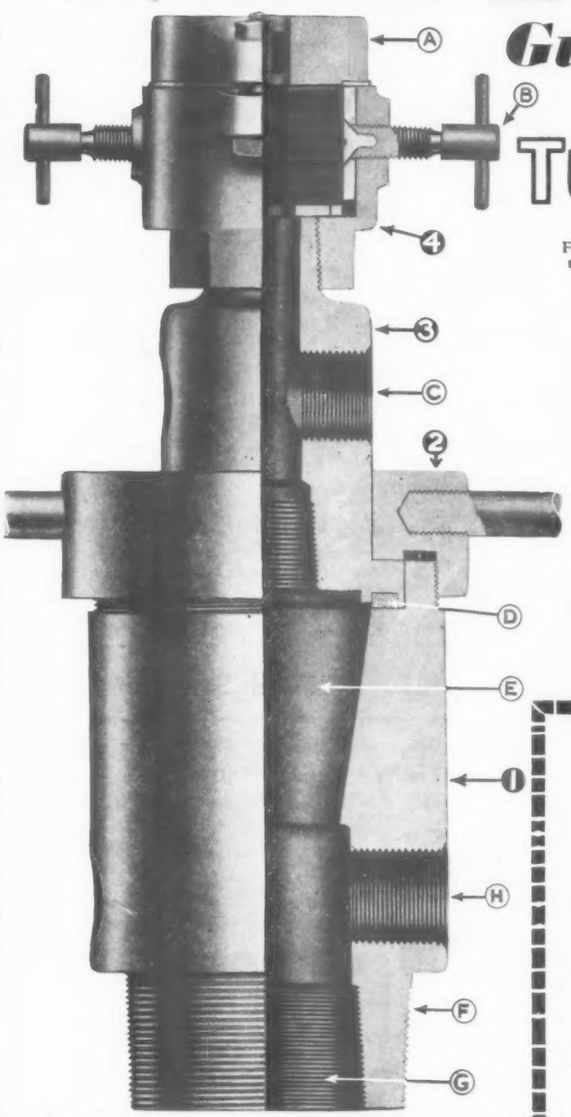

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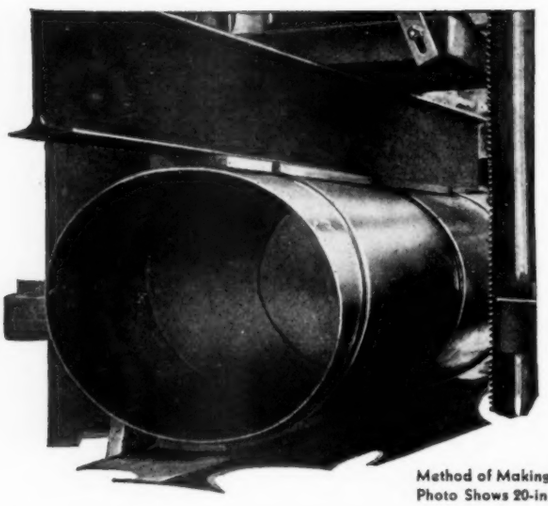

Method of Making Crushing Tests.
Photo Shows 20-inch Naylor Pipe.

Authoritative Tests Prove Remarkable Resistance To Crushing Action In LIGHT WEIGHT Naylor Pipe

External crushing tests on Naylor Pipe recently conducted by Professor M. L. Enger and W. M. Lansford at the Materials Testing Laboratory of the University of Illinois show:

Diameter In.	Thickness In.	Load at Yield Point Lb. per Ft.	Vertical Defl. Yield Point In.	Max. Load Lb. per Ft.	Computed Load at Yield Point Without Spiral Joint Lb. per Ft.
6	0.109	4000	0.24	7100	1010
12	0.141	2800	0.45	4200	930
20	0.141	1000	0.45	2000	580

The last column in the table gives the computed load required to stress to the yield point a plain pipe of the same thickness as Naylor Pipe. A comparison of these values with the experimental values obtained on Naylor Pipe brings out clearly the stiffening effect of the Naylor *Spiralweld* lock-seam.

Another feature of Naylor Pipe structure disclosed by these tests is its ability to transmit loads at considerable distances along the length of the pipe due to the flexible *Spiralweld* lock-seam construction. As a result, loads applied to small areas of the pipe would have to reach relatively large values to bring about a collapse of the length which would be affected.

These authoritative tests are indisputable evidence that remarkable resistance to crushing action has always been one of the definite features of *light weight* Naylor Pipe. A fact that Naylor Pipe has demonstrated in the field. Catalog 30-2 gives more complete engineering and metallurgical data.

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Maximum Structural Strength — Mo-lyb-den-um IRON — With Minimum Weight

Standardized Naylor Pipe is made in sizes 6" to 12" I. D. and 14" to 20" O. D. in any uniform length desired up to 40'0". Ends made to wrought pipe standards for all types of coupling.

Toncan Copper Molybdenum Iron possesses a superior corrosion resistance, making it the favored pipe material.

Where corrosion is not a problem, Naylor Pipe can be furnished in steel.

Summary of Field Operations for November, 1930

Drilling Boosted Potentials in November

INCREASED activity in field operations in the United States during November resulted in a gain in number of wells completed and a sharp increase in new oil production. The success which attended drilling activity last month further boosted the nation's potential supply of oil, since most of the new production encountered, was shut in to comply with proration regulations in the various fields. Thus, while there was a gain of more than 100,000 barrels in new daily oil production, the actual daily average production during November showed a decline of about 83,000 barrels, while the total output of crude for that month decreased to the extent of nearly five million barrels.

Well completions during November aggregated 1233, of which 627 proved to be producing wells, 216 were gas wells and 390 were failures. This compares with 1199 completions during October, of which 587 were producers, 245 were gas wells and 367 were failures. Initial oil production for November, aggregated, exclusive of Rocky Mountain states, 729,651 barrels, against 615,002 barrels in October, a gain of 114,649 barrels. Natural gas initial volume amounted to 1,359,025,000 cubic feet, against 1,775,050,000 cubic feet during October. Texas led all states in the number of wells completed during November, while Oklahoma continued to lead all states in the quantity of new oil production obtained. Initial oil production records for New Mexico place that state second in quantity of new production for the month of November.

Total crude oil production for the month of November is estimated at 68,765,600 barrels, based upon weekly daily average production estimates of the American Petroleum Institute. This compares with a total of 73,627,650 barrels during October, or a decline for the month of 4,952,050 barrels. The daily average production of crude during November was 2,289,050 barrels, a decline of 83,100 barrels a day. With the exception of North Louisiana and California, all producing states registered a further decline in daily average crude production during November. Oklahoma recorded the greatest decline during the month when daily average production receded from 542,100 barrels in October to 492,700 barrels in November. Production in California increased from 590,800 barrels daily in October to 601,200 barrels daily in November.

There was a sharp gain in the number of wells completed in Pennsylvania during November. The total increased from 54 wells in October to 99 in November. Most of this gain was attributed to the Bradford district where well completions increased from 32 in October to 43 in November. Initial oil production of Pennsylvania, however, was less than in October; 207 barrels against 227 in October. Ohio recorded a decrease in the number of wells completed during November when the total for the state receded from 151 in October to only 101 in November. Initial oil production of Ohio was also materially less than in October; only 578 barrels total against 1325 barrels in October. Operations in the Central Ohio area accounted for the state decline.

Decline in Well Completions

Well completions in West Virginia staged a decline of 12 wells during November, while initial oil production dwindled to only 27 barrels, against 127 barrels in October. Results obtained in Kentucky during November accounted for a substantial gain in new oil production there. Well completions declined from 70 in October to 67 in November, but the number of producing wells completed showed a gain from 32 in October to 38 in November. The increase in number of producing wells and bringing in of several unusually large wells resulted in boosting the initial oil production from 2960 barrels in October to 3684 barrels in November. Hart County, Kentucky, was the hot spot of the month where 15 wells were completed, of which 12 were good producers contributing a total initial oil output of 2925 barrels. Operations in Ohio County, Kentucky, showed a decline during November in both number of wells completed and initial oil production. Michigan reported the completion of fewer wells and smaller initial oil production during November. Isabella County, Michigan, came forward, however, with a gain in number of wells completed and an increase in new oil production. Gas well drilling in Mississippi, in the Jackson district, continued to furnish spectacular results during November, when five gas wells contributed a total initial volume of 155,000,000 cubic feet of natural gas. This was a gain in gas volume over October of 22,000,000 cubic feet.

Oklahoma continued to hold the record for wells with large initial oil production during November, when 99 producers completed yielded a total initial production of 395,804 barrels of oil. The Oklahoma City field ranked foremost in the nation with 346,001 barrels of new oil production obtained from 35 producing wells completed during that month. This represents a particularly high record since the quantity of oil obtained was practically the same as in October although coming from 19 wells less than during the preceding month. The Seminole district of Oklahoma reported a gain in number of wells completed as well as

UNITED STATES PRODUCTION

Following is the gross production in the United States (in barrels of 42 gallons) during November, as compiled from daily averages reported by the American Petroleum Institute. There are differences between the figures shown below and those contained elsewhere in this issue. The figures below are the result of calculating A. P. I. estimates for the representative fields.

State—	Daily Average November*	Daily Production October	Total Production November*
Oklahoma	492,700	542,100	14,781,500
Kansas	111,400	114,850	3,344,850
Texas (outside Gulf Coast)	579,300	609,500	17,379,100
Gulf Coast	190,150	194,850	5,704,450
North Louisiana	44,000	41,500	1,320,850
Arkansas	52,000	52,800	1,559,900
Eastern States	116,300	121,750	3,488,850
Rocky Mountains	102,000	104,000	3,060,000
California	601,200	590,800	18,036,100
Total	2,289,050	2,372,150	68,675,600

*Preliminary—subject to revision.

UNITED STATES FIELD STATISTICS

Following are the completions, showing oil wells, gas wells, failures and initial production of crude oil and gas by states for the month of November as compiled by THE OIL WEEKLY:

State—	Completions	Producers	Gas wells	Failures	Initial Prod. Oil	Gas*
Alabama	1	..	..	1	.....	....
Arkansas	10	5	1	4	1,193	½
California	96	87	..	9	63,940	....
Illinois	18	8	1	9	188	¼
Indiana	22	9	6	7	167	6½
Kansas	55	22	17	16	12,895	87¼
Kentucky	67	38	9	20	3,684	17
Louisiana	76	29	14	33	16,882	230¼
Michigan	18	7	4	7	1,701	16
Mississippi	7	..	5	2	.....	155
New York	9	8	..	1	40	....
New Mexico	20	17	1	2	171,395	118¾
Ohio	101	35	33	33	578	28¾
Oklahoma	196	99	29	68	395,804	265½
Pennsylvania	99	68	20	11	207	17
Texas	352	192	23	137	131,799	283¾
West Virginia	56	9	40	7	27	21¼
Total	1,233	627	216	390(a)	901,046	1,359¼

* Millions of cubic feet.

(a)Total includes New Mexico, U. S. summary excludes Rocky Mountain States.

initial oil production during November. Well completions there totaled 18 with 26,046 barrels of new oil production, against 12 wells completed and 10,450 barrels of new oil production in October. Operations in Kansas resulted in a decline in both wells completed and new oil production during November; well completions receding from 89 in October to only 55 in November, while initial production dropped from 13,643 barrels in October to 12,895 barrels in November. The rate of initial oil production in Kansas was higher per well during November since the number of producing wells completed had declined from 28 in October to 22 in November. This was due to the completion of larger wells in Sedgwick County where eight producing wells yielded 9095 barrels of oil, against 4075 barrels of new oil production from the same number of wells during October.

California Production Up

The Playa del Rey and Elwood fields in California were the direct cause of a sharp gain in well completions and initial oil production in that state during November. Well completions in California increased from 62 in October to 96 in November, while initial oil production increased from 36,620 barrels in October to 63,940 barrels in November. The Elwood field also contributed an unusually large amount of new oil production during the month when three producing wells yielded 19,200 barrels of oil, against the total absence of new oil production during October. At Playa del Rey, the number of well completions increased from 21 in October to 40 in November, while initial oil production was boosted from 15,600 barrels in October to 20,205 barrels in November.

Potential oil production at Hobbs, New Mexico, was materially increased during November, when 16 producing wells completed furnished 171,280 barrels of new oil production. Under existing proration agreements, most of this new oil was shut in. Wildcat operations in North Louisiana continued to hold to former records when seven producers yielded 3566 barrels of new oil production. Total number of wildcat wells completed in this area was 29 wells against 23 in the preceding month. Well completions in the state of Texas increased from 322 in October to 352 in November, although new oil production declined from 164,359 barrels in October to 131,799 barrels in November.

Southwest, West Central, East Central and West Texas contributed to the gain recorded in number of wells completed during November. Operations in the Van field, in East Central Texas, resulted in a materially lower initial oil production during November, accounting for most of the decline recorded for the state during that month. During November the Van field reported the completion of 22 wells, of which 18 were oil producers yielding a total initial of 74,390 barrels, whereas during October, the same number of wells completed, with 21 oil producers, yielded a total of 104,550 barrels of new oil production. Another district that prescribed a decline in new oil production was Darst Creek, in Southwest Texas, where initial oil output declined from 20,005 barrels in October to 14,970 barrels in November.

PAST TWELVE MONTHS

The record for the past 12 months is an interesting study for comparative purposes, the following table giving the field statistics for all states:

Month—	Completions	Producers	Gas wells	Failures	Initial Prod.
August	2,552	1,507	337	708	541,720
September	2,169	1,310	234	624	448,283
October	2,447	1,414	301	732	433,990
November	1,965	1,139	283	543	442,170
December	1,791	978	275	538	433,264
January, 1930	1,918	1,142	296	480	685,325
February	1,463	881	201	381	990,896
March	1,544	794	220	530	665,535
April	1,702	1,023	180	499	776,024
May	1,973	1,125	228	611	771,977
June	1,679	950	223	506	580,997
July	2,144	1,167	306	671	845,068
August	1,837	930	310	597	1,160,055
September	1,165	619	208	338	833,109
October	1,199	587	245	367	615,002
November	1,233	627	216	390	729,651

Note—Rocky Mountain data omitted.

Geary Dome Test Progressing

Casper, Wyo.—In 20 days' actual drilling time Olson Drilling Company has totaled more than 4200 feet in the test it is drilling on Geary Dome, 12 miles east of Casper, for Midwest Refining Company and its associated companies. With continued good luck the well should reach its first objective, the first Wall Creek sand, in the Frontier formation, by December 15. Core drilling continues on the Middle Dome (North Geary), where the company is attempting to correlate subsurface geology and determine the "high" of the structure.

San Juan Basin Test Successful

Durango, Colo.—An important strike has been made in the northwestern part of the San Juan Basin, where McGarr Petroleum Corporation shot its Sanchez 1 and had a hole full of oil as a result. There are three producing sands in all in this well but only the top one was shot. It is understood that the well probably will develop 400 to 500 barrels of 42.6 gravity crude.

Pilot Butte Well Makes Gas

Riverton, Wyo.—The deep test in Pilot Butte field drilled by Kinney-Coastal Oil Company which had a total depth of 4630 feet and was then plugged back to the Muddy sand at 3270 feet to be produced as a gas well, gauged 80,000,000 cubic feet last week on a test. When the Muddy was originally tapped the well showed for 63,000,000 cubic feet before the sand was drilled into. The well is to be shut in for the time being, pending the acquisition of a market for it.

Summary of Field Operations for November, 1930

RECAPITULATION — UNITED STATES

	Completions	Producers	Gas wells	Failures	Initial Production Oil	Initial Production Gas*	Total Production
Oklahoma	196	99	29	68	395,804	265½	14,781,500
Kansas	55	22	17	16	12,895	87¼	3,344,850
Texas (outside Gulf Coast)	290	155	20	115	114,322	278¾	17,379,100
Gulf Coast	138	66	17	55	131,204	235¼	5,704,450
North Louisiana	50	11	14	25	3,737	230¼	1,320,850
Arkansas	10	5	1	4	1,193	½	1,559,900
Eastern States	398	182	118	98	6,556	261¾	3,488,850
Rocky Mountains	(a)	(a)	(a)	(a)	(a)	(a)	3,060,000
California	96	87	..	9	63,940	..	18,036,100
Total for November	1,233	627	216	390	729,651	1,359¼	68,675,600
Total for October	1,199	587	245	367	615,002	1,775½	73,627,650

* Millions of cubic feet.
(a) Not available.

NEW YORK

	Completions	Producers	Gas Wells	Failures	Initial Oil	Prod. Gas*
Allegany	9	8	..	1	40	..
Total	9	8	..	1	40	..

PENNSYLVANIA

Allegheny	1	..	1	..	...	1
Beaver	2	..	..	2	...	..
Bradford	43	42	..	1	127	..
Butler	9	5	3	1	29	2½
Center-Middle	9	5	2	2	20	2
Clarion	29	16	10	3	31	9
Greene	4	..	2	2	...	½
Washington	2	..	2	..	...	2
Total	99	68	20	11	207	17

CENTRAL OHIO

Ashland	9	3	1	5	12	1¾
Ashtabula	1	..	1	..	...	8
Athens	12	4	3	5	9	1¼
Belmont	1	..	1	..	...	¼
Fairfield	1	1	..	..	6	..
Guernsey	5	3	2	..	80	¾
Hocking	1	..	1	..	...	¼
Holmes	2	..	1	1	...	¼
Knox	1	..	1	..	...	¼
Licking	5	2	..	3	92	..
Lorain	2	..	1	1	...	2¼
Medina	8	3	1	4	30	¾
Muskingum	7	4	2	1	211	½
Perry	5	..	3	2	...	3¼
Richland	2	..	..	2	...	..
Stark	1	..	..	1	...	..
Tuscarawas	2	1	1	..	50	2
Vinton	1	1	..	..	6	..
Wayne	2	..	2	..	...	2
Total	68	22	21	25	496	23½

SOUTHEASTERN OHIO

Jefferson	3	2	..	1	15	..
Monroe	4	2	..	2	6	..
Morgan	5	1	3	1	2	¾
Washington	9	5	1	3	12	1
Total	21	10	4	7	35	1¾

NORTHWESTERN OHIO

Allen	1	1	..	..	10	..
Hardin	6	1	5	..	25	2½
Sandusky	1	..	1	..	...	¼
Seneca	1	1	..	..	12	..
Wyandot	3	..	2	1	...	¾
Total	12	3	8	1	47	3½
Total Ohio	101	35	33	33	578	28¾

KENTUCKY

Bell	1	..	1	..	...	3
Daviess	11	3	1	7	100	1
Estill	3	2	..	1	12	..
Hancock	5	3	2	..	105	7
Hart	15	12	1	2	2,925	2
Henderson	3	2	..	1	12	..
Johnson	1	1	..	..	20	..
McLean	4	3	..	1	145	..
Ohio	19	11	4	4	335	4
Union	1	1	..	..	30	..
Warren	1	..	..	1	...	..
Wayne	3	..	..	3	...	..
Total	67	38	9	20	3,684	17

WEST VIRGINIA

	Completions	Producers	Gas Wells	Failures	Initial Oil	Prod. Gas*
Boone	4	..	4	..	...	2¼
Braxton	1	..	..	1	...	..
Calhoun	10	..	10	..	...	4½
Clay	3	..	3	..	...	1
Coleman	2	1	1	..	5	1
Doddridge	2	..	2	..	...	¾
Fayette	2	..	2	..	...	¾
Gilmer	2	..	2	..	...	¾
Hancock	1	1	..	..	5	..
Harrison	1	..	1	..	...	1
Kanawha	2	1	1	..	5	1½
Marion	2	..	2	..	...	1¾
Marshall	1	1	..	..	2	..
Mingo	2	..	2	..	...	1
Monogalia	1	..	1	..	...	½
Ritchie	5	2	2	1	3	¾
Roane	5	1	4	..	5	2½
Upshur	1	..	1	..	...	¼
Wayne	2	..	1	1	...	½
Wetzel	2	..	1	1	...	½
Wirt	2	1	..	1	1	..
Wood	3	1	..	2	1	..
Total	56	9	40	7	27	21¼

INDIANA

Davies	1	..	..	1	...	..
Floyd	1	..	..	1	...	..
Hamilton	1	1	..	..	15	..
Jay	3	1	1	1	50	¼
Perry	3	2	..	1	10	..
Pike	7	2	5	..	2	6¼
Spencer	2	2	..	..	70	..
Sullivan	2	..	..	2	...	..
Vigo	1	1	..	..	20	..
Washington	1	..	..	1	...	..
Total	22	9	6	7	167	6½

ILLINOIS

Clark	1	1	..	..	1	..
Crawford	4	1	1	2	2	¼
Lawrence	4	1	..	3	80	..
McDonough	1	1	..	..	1	..
Marion	1	1	..	..	10	..
Randolph	1	..	..	1	...	..
St. Clair	2	1	..	1	50	..
Wabash	4	2	..	2	44	..
Total	18	8	1	9	188	¼

MICHIGAN

Calhoun	1	..	..	1	...	..
Isabella	11	7	4	..	1,701	16
Livingston	1	..	..	1	...	..
Manistee	1	..	..	1	...	..
Muskegon	1	..	..	1	...	..
Newyago	1	..	..	1	...	..
Osceola	1	..	..	1	...	..
Saginaw	1	..	..	1	...	..
Total	18	7	4	7	1,701	16

MISSISSIPPI

Wildcats	7	..	5	2	...	155
Total	7	..	5	2	...	155

ALABAMA

Wildcats	1	..	..	1	...	..
Total	1	..	..	1	...	..

Total Eastern States... 398 182 118 98 6,556 26¼
Total Production Eastern States ..... 3,488,850 barrels

CALIFORNIA

	Completions	Producers	Gas Wells	Failures	Initial Oil	Prod. Gas*
Athens-Rosecrans	1	1	..	..	600	..
Elwood	3	3	..	..	19,200	..
Huntington Beach	2	2	..	..	80	..
Inglewood	1	1	..	..	400	..
Long Beach	24	24	..	..	14,710	..
Maricopa Flats	2	2	..	..	400	..
Montebello	1	1	..	..	175	..
Playa del Rey	40	40	..	..	20,205	..
Potrero	2	2	..	..	275	..
Round Mountain	4	4	..	..	1,510	..
Santa Fe Springs	3	3	..	..	685	..
Ventura	3	3	..	..	4,700	..
Wildcats	10	1	..	9	1,000	..
Total	96	87	..	9	63,940	..

CALIFORNIA PRODUCTION SUMMARY

Inglewood	460,600
Midway-Sunset	1,777,000
Ventura	1,407,600
Seal Beach	541,400
Elwood	1,066,800
Kettleman Hills	771,800
Santa Fe Springs	2,841,700
Long Beach	2,944,100
Huntington Beach	832,000
Dominguez	300,000
Playa del Rey	1,161,100
Others	3,932,000
Total	18,036,100

OKLAHOMA

	Completions	Producers	Gas Wells	Failures	Initial Oil	Prod. Gas*
Beckham	1	..	..	1	...	..
Carter	12	10	..	2	5,645	..
Cimarron	1	..	..	1	...	..
Creek	19	9	2	8	970	6¾
Grady	2	..	2	..	...	13
Harper	1	..	1	..	...	12
Hughes	6	..	3	3	...	77
Kay	4	2	1	1	45	4
LeFlore	1	..	1	..	...	6
Lincoln	1	..	..	1	...	..
Marshall	3	..	..	3	...	..
McIntosh	2	..	1	1	...	½
Muskogee	17	1	4	12	35	6¼
Noble	3	..	2	1	...	39¾
Okfuskee	2	..	..	2	...	..
Oklahoma	40	35	1	4	346,001	18
Okmulgee	6	4	..	2	49	..
Osage	7	3	2	2	860	9¼
Pawnee	8	2	..	6	12	..
Payne	1	..	..	1	...	..
Pittsburg	6	..	4	2	...	55
Pontotoc	5	3	..	2	118	..
Pottawatomie	9	7	..	2	15,710	..
Seminole	18	14	1	3	26,046	12
Stephens	5	4	..	1	235	..
Tulsa	6	3	1	2	38	1
Wagoner	9	2	3	4	40	5
Woods	1	..	..	1	...	..
Total	196	99	29	68	395,804	265½

OKLAHOMA PRODUCTION SUMMARY

	Barrels
Braman	68,150
Blackwell	74,750
Hubbard	33,150
Thomas	14,000
Tonkawa	148,750
Garber	131,900
Burbank	425,050
Osage	734,150
Cushing	370,200
Yale	175,400
Davenport	27,850
Bristow-Slick	377,250
North Okmulgee	286,100
South Okmulgee	187,400
Cromwell	190,650
Papoose	69,550
Wewoka	141,900
Seminole	413,700
East Seminole	62,900
Bowlegs	412,650
Searight	200,100
Little River	715,800
East Little River	336,250
Earlsboro	549,200
East Earlsboro	516,300
Duncan	227,650
Graham	84,900
Fox	26,850
Healdton	317,000
Hewitt	174,050
Scholem-Alechem	313,250
Pearson	16,250
Oklahoma City	2,402,900
Mission	210,550
Carr City	347,800
Asher	28,200
Sasakwa	142,800
St. Louis	673,000
Allen	398,900
Maud	92,900
Logan	106,200
West Asher	352,150
South Earlsboro	281,050
Konowa	455,800
Others	1,466,200
Total	14,781,500

KANSAS

	Completions	Producers	Gas Wells	Failures	Initial Oil	Prod. Gas*
Barber	2	..	..	2	...	..
Butler	4	1	..	3	50	..
Cowley	6	1	5	..	150	4¾
Edwards	1	1	..	..	40	..
Ellsworth	1	1	..	..	1,800	..
Greenwood	4	4	..	..	400	..
Harvey	1	..	..	1	...	..
Lyon	1	..	..	1	...	..
Marion	2	1	..	1	95	..
McPherson	3	1	2	..	25	14½
Morris	1	..	..	1	...	..
Rice	2	1	..	1	475	..
Russell	1	1	..	..	400	..
Sedgwick	11	8	..	3	9,095	..
Stafford	2	1	..	1	340	..
Stanton	1	..	..	1	...	..
Stevens	10	..	10	..	...	68
Sumner	2	1	..	1	25	..
Total	55	22	17	16	12,895	87¼

KANSAS PRODUCTION SUMMARY

	Barrels
Greenwood	527,450
Florence	25,350
Peabody	69,400
Eldorado	413,650
Augusta-Fox-Bush	81,850
Rainbow Bend	30,400
Voshell	200,400
Russell	87,750
Churchill	103,150
Oxford	72,400
Sedgwick	775,250
Others	957,800
Total	3,344,850

MOUNTAIN STATES PRODUCTION SUMMARY

WYOMING

Salt Creek	830,300
Grass Creek	63,250
Elk Basin	22,150
Big Muddy	61,450
Lost Soldier	114,700
Rock Creek	63,750
Lance Creek	6,650
Oregon Basin	84,400
LaBarge	50,000
Others	120,650
Total	1,417,300

MONTANA

Cat Creek	34,100
Sunburst	87,050
Pondera	43,300
Others	1,500
Total	165,950

COLORADO

Moffats	35,700
Fort Collins	34,450
Florence	14,150
Others	43,050
Total	127,350

NEW MEXICO

Table Mesa	3,000
Artesia	19,500
Hogback	13,500
Rattlesnake	33,300
Lea County	198,200
Hobbs	1,077,800
Eddy	4,100
Total	1,349,400
Total Mountain States	3,060,000

NEW MEXICO

	Completions	Producers	Gas Wells	Failures	Initial Oil	Prod. Gas*
Eddy	2	1	1	..	115	6¼
Lea	18	16	..	2	171,280	112½
Total	20	17	1	2	171,395	118¾

* Millions of cubic feet.

ARKANSAS

	Completions	Producers	Gas Wells	Failures	Initial Oil	Prod. Gas*
Ouachita	1	..	..	1	...	..
Union	4	4	..	..	1,093	..
Wildcats	5	1	1	3	100	½
Total	10	5	1	4	1,193	½

ARKANSAS PRODUCTION SUMMARY

	Barrels
Eldorado	117,150
Champagnolle	104,100
Smackover Light	145,200
Smackover Heavy	1,065,700
Stephens	27,000
Nevada	30,750
Lisbon	26,950
Others	43,050
Total	1,559,900

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Layne Wells, Pumps, and Screens have been the standard of excellence with many oil companies for over a third of a century. Layne service is always near and available.

Write for bulletin and information.

LAYNE & BOWLER, Inc.
MEMPHIS TENNESSEE

It is RESULTS that count

It is "Wicked" to Gamble with WELDING WIRE

If there is anything worse than an unsatisfactory Welding Job we have never been able to discover it. Here you want reliability plus. And it is no place to gamble with mine-run materials.

Page-Armco Welding Wire costs a little more, it is true, but it is also worth more. There are no spoiled jobs, no wasted labor through lack of uniformity or inclusions which prevent uniformity in the finished work.

Page-Armco Welding Wire is flame-tested. Ask experienced welders and they will tell you it is shop-tested too. It is the wire to use for either gas or electric welding and is exactly processed for the type of work you have in hand.

Your welders will do better work and faster work if you back them up with the best in materials. That is one reason why users of Page-Armco Welding Wire and Electrodes find them a true economy.

PAGE STEEL *and* WIRE COMPANY
An Associate Company of the American Chain Company, *Inc.*
General Sales Office:
New York Central Building, 230 Park Ave., New York, N. Y.
District Sales Offices:
Chicago, New York, Pittsburgh, San Francisco
Canadian Distributor and Manufacturer:
Frost Steel and Wire Co., *Limited*, Hamilton, Ont.

SYMBOLS OF GOOD WELDING WIRE

PAGE-ARMCO

FLAME-TESTED PROCESSED SHOP-TESTED

WELDING WIRE *and* ELECTRODES

TEXAS RECAPITULATION

	Completions	Producers	Gas wells	Failures	Initial Production Oil	Gas*	Total Production
Panhandle	33	26	4	3	6,483	135	2,315,700
South	52	43	7	2	20,651	98	2,532,000
North	37	10	..	27	290	..	2,053,400
East	2	..	1	1	.....	..¾	.....
East Central	34	18	..	16	74,390	..	1,216,650
West Central	100	32	8	60	4,573	29½	1,178,400
West	32	26	..	6	7,575	15½	8,082,950
Total Texas (outside Gulf Coast)	290	155	20	115	114,322	278¾	17,379,100
Gulf Coast	62	37	3	22	17,477	5	4,858,600
Grand Total	352	192	23	137	131,799	283¾	22,237,700

* Millions of cubic feet.

TEXAS PANHANDLE

	Completions	Producers	Gas wells	Failures	Initial Production Oil	Gas*	Total Prod.
Carson	1	..	1	..	..	52	187,550
Gray	24	21	1	2	5,703	35	1,637,050
Hutchinson	4	4	..	..	430	..	457,800
Lipscomb	1	..	..	1	..	..	.....
Moore	2	1	1	..	350	8	.....
Potter	1	..	1	..	..	40	.....
Wheeler	..	..	..	..	..	..	16,950
Others	..	..	..	..	..	..	16,350
Total	33	26	4	3	6,483	135	2,315,700

SOUTHWEST TEXAS

Bexar	6	5	1	..	96	2	.....
Caldwell	1	1	..	..	40	..	.....
Chapman	9	9	..	..	4,700	..	208,450
Dale	..	..	..	..	..	..	8,600
Darst Creek	17	17	..	..	14,970	..	1,041,050
Duval	3	..	1	2	..	15	.....
Laredo District	..	..	..	..	..	..	426,250
Luling	..	..	..	..	..	..	290,400
Lytton Springs	..	..	..	..	..	..	22,850
Maverick	1	..	1	..	..	12	.....
Nueces	2	..	2	..	..	55	.....
Roma	1	..	1	..	..	4	.....
Salt Flat	..	..	..	..	..	..	475,500
Somerset	..	..	..	..	..	..	40,650
Webb	1	..	1	..	..	10	.....
Zapata	11	11	..	..	845	..	.....
Others	..	..	..	..	..	..	18,250
Total	52	43	7	2	20,651	98	2,532,000

NORTH TEXAS

Archer	16	3	..	13	60	..	402,450
Baylor	2	..	..	2	..	..	.....
Burkburnett	..	..	..	..	..	..	229,650
Clay	1	..	..	1	..	..	.....
Cooke	4	1	..	3	20	..	.....
Denton	3	..	..	3	..	..	.....
Electra	..	..	..	..	..	..	312,250
Grayson	3	1	..	2	30	..	.....
KMA-Iowa Park	..	..	..	..	..	..	133,600
Montague	2	1	..	1	45	..	279,000
Wichita	4	2	..	2	80	..	.....
Wilbarger	2	2	..	..	55	..	497,600
North Young	..	..	..	..	..	..	145,500
Others	..	..	..	..	..	..	53,350
Total	37	10	..	27	290	..	2,053,400

WEST CENTRAL TEXAS

Brown	5	..	1	4	..	¼	152,100
Callahan	2	..	1	1	..	5	91,400
Coleman	11	4	2	5	980	4	74,550
Eastland	4	1	1	2	20	3½	147,750
Erath	1	..	..	1	..	..	.....
Jack	..	..	..	..	..	..	61,250
Palo Pinto	..	..	..	..	..	..	13,550
Shackelford	6	2	..	4	50	..	155,300
Stephens	6	3	1	2	36	¼	161,500
Throckmorton	4	2	..	2	19	..	21,350
Young	61	20	2	39	3,468	16½	193,200
South Young	..	..	..	..	..	..	50,600
Others	..	..	..	..	..	..	55,850
Total	100	32	8	60	4,573	29½	1,178,400

EAST CENTRAL TEXAS

Boggy Creek	..	..	..	..	..	..	70,150
Corsicana-Powell	..	..	..	..	..	..	157,950
Currie	..	..	..	..	..	..	9,000
Mexia	..	..	..	..	..	..	117,800
Nigger Creek	..	..	..	..	..	..	4,900
Richland	..	..	..	..	..	..	4,900
Van Zandt	22	18	..	4	74,390	..	828,750
Wortham	..	..	..	..	..	..	18,800
Wildcats	12	..	..	12	..	..	.....
Others	..	..	..	..	..	..	4,400
Total	34	18	..	16	74,390	..	1,216,650

EAST TEXAS

Panola	1	..	1	..	..	¾	.....
Wildcats	1	..	..	1	..	..	.....
Total	2	..	1	1	..	¾	.....

WEST TEXAS

	Completions	Producers	Gas wells	Failures	Initial Production Oil	Gas*	Total Prod.
Crane	3	3	..	..	1,295	..	1,058,600
Crockett	..	..	..	..	..	..	60,700
Ector	8	8	..	..	4,760	..	176,600
Howard	1	1	..	..	35	..	848,700
Jones	1	1	..	..	200	..	41,900
Loving	2	2	..	..	485	..	.....
Mitchell-Scurry	..	..	..	..	..	..	65,200
Pecos	6	6	..	..	400	..	96,350
Reagan	..	..	..	..	..	..	779,000
Upton	2	2	..	..	100	..	.....
Ward	2	2	..	..	200	15½	.....
Winkler	2	1	..	1	100	..	1,701,350
Yates	..	..	..	..	..	..	3,060,300
Wildcats	5	..	..	5	..	..	.....
Others	..	..	..	..	..	..	194,250
Total	32	26	..	6	7,575	15½	8,082,950

TEXAS GULF COAST

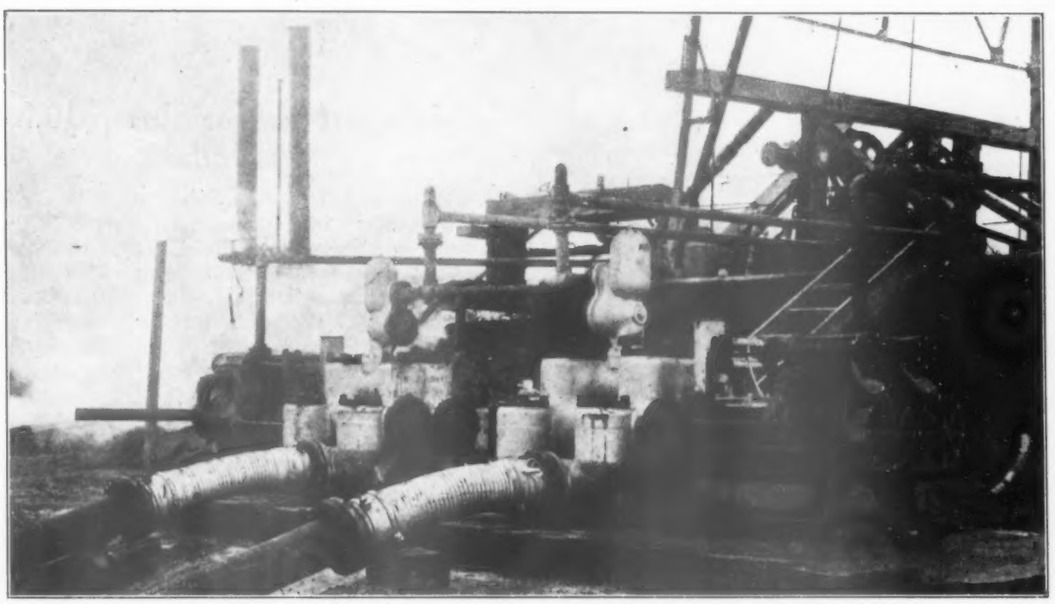
Barbers Hill	5	4	..	1	5,400	..	631,000
Batson	2	1	..	1	15	..	33,400
Big Creek	2	..	..	2	..	..	101,500
Blue Ridge	..	..	..	..	..	..	48,400
Bloomington	1	..	..	1	..	..	.....
Boling	..	..	..	..	..	..	27,750
Chocolate Creek	1	..	..	1	..	..	.....
Clay Creek	1	1	..	..	360	..	.....
Damon Mound	..	..	..	..	..	..	21,000
Dyersdale	1	..	..	1	..	..	.....
Esperson Dome	3	2	..	1	360	..	85,150
Fannett	..	..	..	..	..	..	19,050
Goose Creek	..	..	..	..	..	..	129,500
Hankamer	1	1	..	..	670	..	59,850
Heiskell	1	..	..	1	..	..	.....
Hockley	1	..	..	1	..	..	.....
Hull	5	3	..	2	1,600	..	237,000
Humble	..	..	..	..	..	..	405,900
Moore Field	2	2	..	..	1,215	..	.....
North Dayton	1	1	..	..	1,150	..	34,650
Orange	2	2	..	..	80	..	61,600
Orchard	..	..	..	..	..	..	66,650
Oyster Bayou	1	..	..	1	..	..	.....
Pettus	3	1	..	2	925	..	253,600
Pierce Junction	1	1	..	..	500	..	304,550
Port Neches	1	..	..	1	..	..	45,650
Raccoon Bend	1	..	..	1	..	..	261,600
Refugio	13	10	..	3	4,281	..	811,900
Saratoga	4	1	3	..	7	5	36,000
Somerville	..	..	..	..	..	..	38,500
Sour Lake	..	..	..	..	..	..	63,800
South Liberty	4	4	..	..	195	..	88,500
Spindle Top	3	2	..	1	19	..	423,000
Sugar Land	1	1	..	..	700	..	359,950
West Columbia	..	..	..	..	..	..	139,750
Wildcats	1	..	..	1	..	..	.....
Others	..	..	..	..	..	..	69,600
Total	62	37	3	22	17,477	5	4,858,600

LOUISIANA GULF COAST

Bayou Bouillon	..	..	..	..	..	..	4,900
Bayou Choctau	1	..	..	1	..	..	.....
Black Bayou	2	2	..	..	2,100	..	.....
East Hackberry	5	5	..	..	2,540	..	89,250
Edgerly	..	..	..	..	..	..	12,100
Evangeline	1	..	..	1	..	..	60,800
Hackberry	..	..	..	..	..	..	26,350
Lake Barre	1	1	..	..	1,450	..	68,400
Leesville	1	..	..	1	..	..	.....
Lockport	3	3	..	..	1,600	..	133,950
Napoleonville	3	..	..	3	..	..	.....
Port Barre	..	..	..	..	..	..	71,900
Rose Dome	1	..	..	1	..	..	.....
Sorrento	1	..	..	1	..	..	1,500
Starks Dome	1	1	..	..	120	..	.....
Sulphur	3	3	..	..	3,735	..	85,950
Sweet Lake	..	..	..	..	..	..	34,500
Vinton	3	3	..	..	1,600	..	158,300
White Castle	..	..	..	..	..	..	31,500
Others	..	..	..	..	..	..	66,450
Total	26	18	..	8	13,145	..	845,850
Total Louisiana	76	29	14	33	16,882	230¼	2,166,700

STILL GREATER EFFICIENCY

10" SIDE SUCTION
FRICTION ELIMINATED
DIRECT FLOW—VIBRATIONLESS



WILSON-SNYDER No. 18

14" x 7¼" x 18"

Two of the newest Wilson-Snyder Pumps on duty at Refugio, Texas. Note how side suction gives direct flow from slush pit to pump. No ells or sharp turns. Pump fills quickly and completely, with rapid distribution of fluid to valves.

The flexible couplings positively eliminate all vibration, thus minimizing wear and tear on pump. Fluid ends are tested to 3000 pounds to handle extra high steam pressures. Truly a master pump by master pump builders.

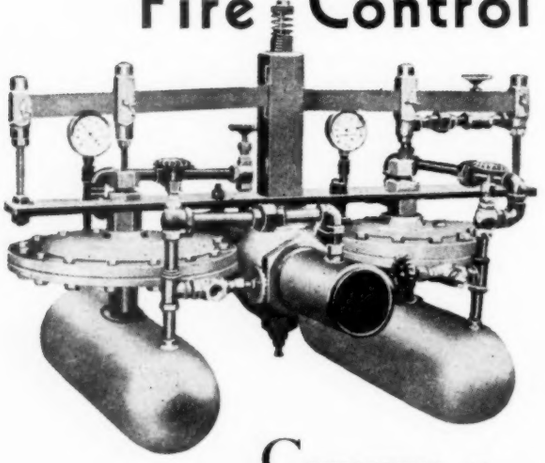
Distributed Exclusively on the Gulf Coast by

Wilson
SUPPLY COMPANY
Oil & Gas Well SUPPLIES

BRANCH STORES
Luling, Beaumont, Pettus,
Barbers Hill, Texas
Shreveport, La.

1412 MAURY ST.
HOUSTON, TEXAS

. . . . . Badgett's New Automatic Fire Control



CONFORMING with our policy of supplying reliable oil field accessories, which are both inexpensive and economical of operation, we offer our new automatic Gas Fire Control.

This Control is easy to install and inexpensive to operate and earns its original cost many times over in the saving of fuel and elimination of breakdown troubles.

Like all other Badgett products, this new Gas Fire Control is guaranteed. It works accurately on variation of gas pressure from 5 to 300 pounds, and is easily changed for any burner pressure by merely opening a needle valve, allowing the pressure to reach the desired point. The control is operated on gas until the desired steam pressure is reached when it automatically switches over to the steam side. The Badgett Gas Fire Control operates so perfectly that the steam pressure will not vary more than 2 to 4 pounds on drilling rigs. The Diaphragm is built to withstand 600 pounds working pressure.

If you want to save boiler troubles, time, money, why not wire or telephone your supply house today to send you one or more Badgett Automatic Gas Fire Controls?

We can supply the New Automatic Gas Fire Control in either 2″ or 3″, single or double control. We recommend the single control be used only where the gas pressure does not vary in the line.

Southern Drilling Co., Oklahoma City

John Mabee, Tulsa
Loffland Bros., Tulsa
J. Henry, Duncan, Okla.
Summit Drilling Co., Tulsa
G. J. Beard, Duncan, Okla.
Hubbard & Wofford. Tulsa
Herman Wagener, Oklahoma City
Byers Drilling Co., Oklahoma City
A & B Drilling Co., Oklahoma City
Capitol Drilling Co., Oklahoma City
Prince & Prince, Electra, Texas
Clark & Cowden, Duncan, Okla.
Independent Oil Co., Oklahoma City
G. E. Gilberth, Oklahoma City
Golden & Cochran, Wink, Texas
Haynes Drilling Co., Wink, Texas
Murphy & Graham, Seminole, Okla.
Steinberg & Yerkee, Seminole, Okla.
Fain-McGaha, Wichita Falls, Texas
Alleson & Clevinger, Seminole, Okla.
Winkler & McQueen, Duncan, Okla.
Reynold Drilling Co., Seminole, Okla.
Manahan Drilling Co., Seminole, Okla.
Herndon Drilling Co., Seminole, Okla.
Hartman & Hamilton, Seminole, Okla.

You are not obligating yourself when you write for details.

Sold through leading supply houses in the Mid-West and through the National Supply Co. in the State of California.

BADGETT STEAM LUBRICATOR COMPANY
CHICKASHA - - - OKLAHOMA

NORTH LOUISIANA

	Completions	Producers	Gas wells	Failures	Initial Production Oil	Gas*	Total Prod.
Bossier	3	1	2	..	6	10½	.....
Caddo	3	1	..	2	40	..	336,050
Carterville	..	..	..	..	..	..	71,200
Cotton Valley	..	..	..	..	..	..	55,500
DeSoto-Red River	..	..	..	..	..	..	85,900
Haynesville	..	..	..	..	..	..	157,400
Holly	..	..	..	..	..	..	31,300
Homer	..	..	..	..	..	..	100,550
Morehouse	1	..	1	..	..	2	.....
Richland	6	..	5	1	..	164½	.....
Sabine	3	1	..	2	100	..	.....
Union	4	..	4	..	..	18	.....
Urania	..	..	..	..	..	..	159,500
Webster	1	1	..	..	25	..	.....
Zwolle	..	..	..	..	..	..	272,450
Wildcats	29	7	2	20	3,566	35¼	.....
Others	..	..	..	..	..	..	51,000
Total	50	11	14	25	3,737	230¼	1,320,850

* Millions of cubic feet.

Oil Export Values Slump 30 Million Dollars

Washington, D. C.—According to figures compiled by the Department of Commerce, total value of exported petroleum and its products for the first 10 months of this year aggregated $416,039,185, against $446,811,051 during the same period of last year. This represents a net decline in value of $30,771,866, reflecting to some degree the lower prices which have prevailed during 1930. Analysis of detailed export figures show, however, that this decline was not all due to low market values, but partly due to a slump in the volume of oil exported. In fact, gasoline was the only product to show a gain in quantity exported during this period, compared with last year. The value of gasoline exports, however, was lower by $764,735, despite a gain in volume exported over last year of 5,327,017 barrels. All other products and crude oil exported showed a decline in volume as well as in value. Following is a summary of the figures setting forth the data compiled by the Department of Commerce:

Domestic Exports of Petroleum and Refined Products

Petroleum—Crude	bbls.	2,868,807	2,166,685	21,725,716	20,600,290
	value	4,334,543	3,161,501	30,796,829	28,651,352
Total refined Petroleum	bbls.	13,092,268	10,712,963	105,313,475	106,138,339
	value	49,529,279	36,142,057	416,014,222	387,387,833
Gasoline, naphtha, and other light products	bbls.	5,967,128	6,133,362	50,097,124	55,424,141
	value	26,341,039	21,863,725	223,821,105	224,585,840
Oils, illuminating	bbls.	2,237,235	1,401,011	16,841,950	14,400,997
	value	9,051,174	4,727,276	71,691,208	54,779,053
Gas and fuel	bbls.	3,815,070	2,444,926	29,044,147	27,827,523
	value	4,360,522	2,583,355	30,637,321	28,623,636
Lubricating	bbls.	1,056,924	720,781	9,173,382	8,352,281
	value	9,566,966	6,817,763	87,663,902	77,566,381
Other refined Petroleum	bbls.	15,911	12,883	156,872	133,397
	value	209,578	149,938	2,200,686	1,832,903
Paraffin wax	lbs.	39,091,116	31,721,287	266,213,430	241,903,513
	value	1,578,773	1,011,213	11,961,947	8,864,261

Buck Springs Test Gets Gas

Rawlins, Wyo.—Joint test of Jenson Coal Products Company and Petroleum Exploration Company of California on Buck Springs structure, northwest of here, is cementing off gas production of about 5,000,000 cubic feet at 791 feet. Well is at present bottomed in the top of the Frontier, not in the Muddy as was previously reported. No water has been encountered to date. Well is to be deepened to the Dakota, Lakota, and Sundance sands. Producers & Refiners Corporation drilled a well 1100 feet west of the present test, and found the top of the Wall Creek sand at 205 feet. Somewhere between 550 feet and the top of the Mowry shales this well crossed the fault which Petroleum Exploration Company hopes is a trap for the oil.

THE Moore
Champion
DERRICK

AFTER ALL— IT'S THE LEGS THAT COUNT!

When heavy overloads occur, leg strength tells. Moore Champion Derrick leg sections are strong indeed, as the chart shows.

BASE PLATES ARE IMPORTANT

The heavy loads carried by the legs are borne, also, by the base plates. In the Moore Champion, these are heavily ribbed steel castings. Through bolts hold the legs from pulling out, and two large anchor bolts secure each base plate to the steel base or concrete pier. All the uplift, due to horizontal loading, is transmitted through the anchor bolts to the foundation. Holes for anchor bolts conform to A. P. I. specifications.

THE Moore Champion DERRICK

Moore ALL STEEL RIG EQUIPMENT

LEE C. MOORE AND COMPANY, INC.
PITTSBURGH Established 1907 TULSA

New York Offices
Oilfield Equipment Co., 30 Church Street, New York, N. Y.
DALLAS, TEXAS WICHITA, KANSAS CASPER, WYO.
SHREVEPORT, LA. HOUSTON, TEXAS
Stocks in All Principal Cities

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
ELWOOD—		
Caroline Spalding, No. 93-1	11,500	3640
LONG BEACH—		
R. R. Bush Oil Co., Brennecke 2-A	100	6830
Dabney-Johnston Oil Corp., No. 8	100	7035
Magna Oil & Gas Co., No. 1	2500	5221
Dabney-Johnston Oil Corp., No. 78	400	7585
Stevens Oil Co., No. 1	350	7475
Primar Oil Co., No. 1	400	7640
Ring Pet. Co., Johnson 1	50	7450
K. S. Deeds, No. 6	35	7495
NEWHALL—		
York and Smullin, Clampitt 5	160	1280
PLAYA DEL REY—		
Blue Ridge Oil Co., Daly 15	300	4495
Geffeney and Chan, No. 1	150	6320
George F. Getty, No. 7	235	4350
Ed C. Lewis, Wolfe 4	550	4425
Metropolitan Oil Co., No. 2	625	4545
Northern Investment Co., Booth 1	150	6290
The Ohio Oil Co., Block J-1	225	3840
Block K-1	240	4570
Gun Club 5	600	4125
Pacific Shore Oil Co., No. 2	500	5657
Pan Gulf Pet. Co., No. 2	150	4235
Toy-Redhouser Pet. Corp., No. 1	500	4240
VENTURA—		
Associated Oil Co., Lloyd 96	3800	7540

OKLAHOMA

Company, Well and Location	Initial Production Bbls.	Depth
CARTER COUNTY—		
Magnolia Pet. Co., Lewis 8, ne c 23-1s-3w	540	2170
Carter Oil Co. et al, Hooks 1, nw se ne 24-1s-3w	1640	1910
Magnolia Pet. Co., Harmon 1, nw c sw 28-1s-2w	*	4350
CREEK COUNTY—		
C. G. Tibbens O&G, Water 3, c sw se 6-14-9e	¶½	985
J. B. Grieves, Lowe 8, sw c se ne ne 13-19-8e	200	2112
C. O. Buckles and Tulsa Oil Co., Morgan 2, ne c nw 14-19-9e	25	1225
Phillips Pet. Co. and Gled Oil Co., Hollingsworth 1, nw c se se 20-19-9e	275	2150
O. M. Irelan et al, Baker 2, se c sw 11-17-10e	*	2565
GRADY COUNTY—		
Badgett and Cooper, Barry 1, c n2 nw 25-4-8w	¶5½	1871
GRANT COUNTY—		
Bu-Vi-Bar Pet. Co. et al, Hurst 1, c sw 25-26-5w	*	5877
KAY COUNTY—		
Blankenship Pet. Co., Hansen 1, sw nw sw 17-27-2e	30	3585
LATIMER COUNTY—		
Limestone O&G, Murray 1, ne c 21-5-18e	*	2763
LINCOLN COUNTY—		
The Texas Co. and Wilcox O&G, School 1, nw sw nw 36-14-6e	*	4265
LOGAN COUNTY—		
Eason Oil Co. et al, Katchor 1, sw ne sw 34-17-4w	680	4918
MARSHALL COUNTY—		
J. C. Doss et al, Taliaferro 1, sw c nw sw ne 4-6s-6e	*	840
MUSKOGEE COUNTY—		
C. Allred et al, Drew 1, nw c sw ne 17-13-16e	¶4	2037
P. Boyle et al, Ware 2, nw c se ne 14-15-15e	5	1428
Taylor and Geiger, Johnson 1, sw c 9-15-15e	*	857
J. W. Patton, Robinson 1 ne c sw 30-15-19e	*	1120
NOBLE COUNTY—		
Twin State Oil Co., Trussell 1, ne c sw 4-20-1w	¶14	3397
Magnolia Petroleum Co., Weeder 2, sw nw ne 22-21-2w	*	5300
OKFUSKEE COUNTY—		
Tulsa Oil Co., Davis 1, se nw sw 3-12-9e	*	4085

For Tabulation and Comparison See Market Section

Company, Well and Location	Initial Production Bbls.	Depth
OKLAHOMA COUNTY—		
I. T. I. O. et al, M.K.T. 5, sw c 35-12-3w	2481	6240
Anderson-Prichard, Roosevelt 1, ne se ne 2-11-3w	6885	6090
Roosevelt 2, se ne ne 2-11-3w	10 440	6070
Roosevelt 5, se nw ne 2-11-3w	2278	6460
Phillips Pet. Co., Rallen 1, nw c cw nw sw 2-11-3w	2430	6270
Velt 1, ne c nw ne ne 2-11-3w	8475	6340
Tom Slick Estate et al, Houston 1, sw ne sw 2-11-3w	5930	6360
Anderson-Prichard Oil Corp. et al, Brown 1, sw c nw 14-11-3w	13,285	6300
I. T. I. O. et al, Fox 1, sw ne sw 14-11-3w	4880	6280
Slick Estate, Thornton 1, ne c se 15-11-3w	8850	6365
I. T. I. O. et al, Johnson 7, ne se nw 25-11-3w	480	6460
OKMULGEE COUNTY—		
Jordan et al, Gooden 2, sw c ne se 28-12-14e	¶¼	765
McDonald et al, Wolfe 1, se c ne 24-16-13e	75	1650
OSAGE COUNTY—		
Gillespie and Sons, 16, se nw ne 8-20-12e	1	1456
A. G. Oliphant 3, nw se ne 10-21-8e	15	2355
I. T. I. O., 437, nw c se se sw 30-25-8e	¶¼	1782
PAWNEE COUNTY—		
Glass et al, McCollum 2, nw se nw 14-20-9e	¶1¼	920
Magnolia Pet. Co., Newell 3, ne sw sw 2-20-6e	*	3080
Hav et al, Wails 1, sw ne ne 14-20-9e	*	2885
PITTSBURG COUNTY—		
Central States Light & Power Co., Huston 1, ne sw se 9-7-18e	¶2	1730
Gains Creek Gas Co., Smith 1, se c sw ne 5-8-16e	¶¼	2025
POTTAWATOMIE COUNTY—		
Deep Rock Oil Corp., Gibson 4, se sw ne 23-6-3e	2720	3380
SEMINOLE COUNTY—		
Pure Oil Co., Tiger 1, sw ne sw 3-8-5e	3570	4142
Magnolia Pet. Co., Billington 2, se c nw 29-6-6e	591	2964
Harris et al, Davis 1, nw c 28-6-6e	100	3655
Crosbie and Moran, Fleet 1, sw c ne 11-6-7e	*	4705
STEPHENS COUNTY—		
Carl Wiley, Speigel 1, sw c ne ne 10-2s-5w	8	848
Floyd Jones et al, Toney 1, sw c nw se 27-2s-7w	*	2051
Smythe et al, House 1, se c sw nw 29-2n-8w	*	3049
WAGONER COUNTY—		
J. P. Flannigan, Cochran 1, ne c 17-16-19e	*	1172
A. H. Secrist, Barnett 3, ne c nw se nw 34-17-16e	*	950
Western Development & Elec. Co., Barnett 7, nw c sw ne 34-18-17e	*	311
Boyd, Martin et al, Owen 1, sw c 30-19-15e	*	1260
J. L. Dixon et al, Brown 4, c sw nw 36-16-17e	15	862
WOODS COUNTY—		
Sinclair O&G, Share 1, c ne sw 33-27-16w	*	7280

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
BUTLER COUNTY—		
Ramsey et al, Ramsey 1, sw c ne 8-24-5e	*	3356
McCulloch and Empire O&R, Lilly 1, sw nw nw 23-23-5e	*	2320
COFFEY COUNTY—		
Rockhill et al, Rich 1, sw c ne 14-20-13e	*	1734
ELLIS COUNTY—		
Phillips Pet. Co., Staab 1, ne c 18-12-17w	*	3919
ELK COUNTY—		
Aladdin Pet. Co., Donnell 1, ne se sw 26-29-10e	*	2411
McPHERSON COUNTY—		
The Texas Co., Munn 5, ne c 12-20-2w	2600	2921
RICE COUNTY—		
Phillips Pet. Co., Mezger 2, se sw ne 21-20-10w	358	3329
Producers & Refiners Corp., Thompson 2, sw se nw 21-20-10w	45	3327
ROOKS COUNTY—		
Boyson et al, Silvers 1, c ne 21-8-19w	300	3442
RUSH COUNTY—		
Independent O&G and Wentz, Kerschmer 1, c se ne 23-18-19w	*	3885
RUSSELL COUNTY—		
Keys Pet. Co., Mermis 11, ne sw sw 33-13-15w	131	3072
Empire O&R, Dillner 1 "B", ne c 35-13-15w	220	3308
SUMNER COUNTY—		
Shell Pet. Corp., Rutter 6, se c nw sw ne 25-31-2e	*	1887

EASTERN STATES

WEST VIRGINIA

Company, Well and Location	Initial Production Bbls.	Depth
KANAWHA COUNTY—		
United Fuel Gas Co., Sunday Creek Coal Co. 4267	¶3	2293
Winifrede Co., Winifrede 3	¶¼	1689
Winifrede 5	¶½	1765
CALHOUN COUNTY—		
Eastern States Oil & Gas Co., Jarvis 1	¶¼	1265
K. C. Simmons, Brannon 1	¶¼	2367
Godfrey L. Cabot, Wagner 707	*	....
LEWIS COUNTY—		
Fred Flesher, Fleasher 1	¶¼	2710
Charles Moran, Allman 1	¶¼	2900
WETZEL COUNTY—		
Pittsburg-West Virginia Gas Co., Higginbotham 5246	*	3601
Manufacturers Light & Heat Co., Haskins 3450	*	3534
BOONE COUNTY—		
The Pure Oil Co., Lafollette 39	6	3178
DODDRIDGE COUNTY—		
Pigott & Shinn, Lively 1	1	....
CLAY COUNTY—		
The Pure Oil Co., Summers 1	¶¼	2056
GILMER COUNTY—		
Philadelphia Nat. Gas Co., Linger 7568	¶¼	1975
RITCHIE COUNTY—		
Reno Oil Co., Cox 2	¶½	2037
WAYNE COUNTY—		
Ohio-Kentucky Gas Co., Staley 1	*	3805

KENTUCKY

Company, Well and Location	Initial Production Bbls.	Depth
HANCOCK COUNTY—		
James C. Ellis, Mason 1	100	....
HART COUNTY—		
LeGrand Oil Co., Buford Ross 1	200	....
Buford Ross 2	150	....
B. F. Wilson & Co., Branstetter 1	100	....
Dulworth & Taylor, Abe Garvin 2	200	....
Unknown parties, Carter 1	100	....
Smith 1	100	....
Rex-Pyramid Oil Co., Payton 1	100	....
Harrodsville O&G Co., Perkins 1	60	....
Chaney 1	¶1½	....
Richardson & Gragg, Lester 1	¶1	....
Dulworth & Co., Cosby Church lot 1	¶2	....
Ollie Norris & Co., Wilson 1	¶2	....
Perkins Bros., Meadows 1	*	730

SOUTHEASTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
WASHINGTON COUNTY—		
Turney & Co., Lasure 15	*	440
Lasure 16	1	436
Lasure 17	1	487
Lasure 18	1	543
Lasure 19	1	624
Lasure 20	1	610
Lasure 21	1	599
Lasure 22	1	581
Lasure 23	1	576
Lasure 24	1	558
Lasure 25	1	485
Lasure 26	1	433
Connor-Price Oil Co., Kellogg 2	¶¼	1675
Morganstown Oil Co., Gebhart 4	*	450
Thomas Oil Co., Moore 1 and 3	*	385
Twin Oak Oil Co., Lauer 9	2	385
Monroe Star Oil Co., Gearhart 1	*	....
Wapple & Day, Lauer 2	2	....
T. N. Curtis & Co., Biehl 7	1	....
Swingle Oil Co., McGrew 1	*	....

CENTRAL OHIO

Company, Well and Location	Initial Production Bbls.	Depth
ATHENS COUNTY—		
Ohio Fuel Gas Co., Roach 1	¶¼	1421
Nuzum & Co., Halbert 4	¶¼	1460
Lewis Jones, Bechtel 1	*	276
Bowser Oil & Gas Co., Ahrendt 2	*	1079
LICKING COUNTY—		
Hope Construction & Refg. Co., Minor-Obannon 3	120	2905
Armbruster & Strickler, Strickler 6	¶¼	761
E. J. Edman, Wise 2	*	606
ASHLAND COUNTY—		
Wile & Co., Mosher 4	*	529
Ohio Fuel Gas Co., Federal Land Co. 1	¶1¼	....
Straits 1	*	....
GUERNSEY COUNTY—		
Ohio Fuel Gas Co., Robinson 4	20	3487
Wilson 3	10	3569
SUMMITT COUNTY—		
Smith & Co., Smith 1	¶2¾	4029
East Ohio Gas Co., Slater 2	¶1½	4119
LORAIN COUNTY—		
Wiser Oil Co., Whitney 1	*	2157
A. F. Kech & Co., Sims 1	*	2278
WAYNE COUNTY—		
Hulse & Kundtz, Firestone 2	*	3138
Short & Co., Younker 3	¶¼	3070
PERRY COUNTY—		
Ohio Fuel Gas Co., Snider 1	¶1	3112
Gas Producing Co. of Ohio, Moore 4	*	3577
MEDINA COUNTY—		
Edson Co., G. Packard 9	25	361
COSHOCTON COUNTY—		
William Stevens, Noland 2	3	3325
BELMONT COUNTY—		
M. W. Fulton & Co., Roe 1	¶½	1965
STARK COUNTY—		
East Ohio Gas Co., Rudy 1	¶6½	4177
MUSKINGUM COUNTY—		
Hopewell Gas Co., Swingle 1	¶½	4050
TUSCARAWAS COUNTY—		
Blackstone & Co., Boltz 1	*	3488
HOLMES COUNTY—		
Ohio Fuel Gas Co., Jones 1	*	....

NORTHWESTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
SENECA COUNTY—		
Kansas-Ohio Oil Co., Swartzmiller 1	22	....
O. S. Barnaby & Co., Feigelist 1	¶¼	1667
C. L. Williams & Co., Stuckey 1	*	1986
Marvela Oil & Gas Co., Rosenberger 4	*	1505
HARDIN COUNTY—		
Pleasant Oil & Gas Co., Oats 1	¶¼	1348
Bert Sheldon, Schwemmer 1	¶¼	1330
Hardin County Quarries, Fee 1	¶¼	1375
SANDUSKY COUNTY—		
W. C. Richards & Co., Bowersox 1	¶¼	....
Bloom 1	¶¼	....

ILLINOIS

Company, Well and Location	Initial Production Bbls.	Depth
CRAWFORD COUNTY—		
Craig, Lowrie & Co., Weger 13	3	1016
Watson & Co., Umstott 1	5	994
John Phipps, Funk No. 2, tr. 9	*	1030
WABASH COUNTY—		
J. D. Toomy & Co., Buchannan 13	30	1507
CLARK COUNTY—		
The Pure Oil Co., Ramsey 1	5	....

MICHIGAN

Company, Well and Location	Initial Production Bbls.	Depth
ISABELLA COUNTY—		
New York Pet. Royalty Co., Marthey 3	92	....
Isabella & Co., Keebauch 1	75	....
Wittmer Prop. Tru., Brophy 1	*	....
KIVINGSTON COUNTY—		
Empire Gas & Fuel Co., Wilkinson 1	¶¼	....

ARKANSAS

Company, Well and Location	Initial Production Bbls.	Depth
UNION COUNTY (Rainbow City)—		
Lion O. R. Co., M. W. Sullivant 1, 12-17-14	¶12	2993
UNION COUNTY (Smackover)—		
Wisinger & Ball, C. C. Goodwin 8, 6-18-15	15	2175

NORTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
CADDO PARISH—		
Bayou State Oil Corp., Barr 5, 30-22-15	10	1121
LA SALLE PARISH (Urania)—		
Montague Oil Co., Zenoria Lbr. Co. 9, 10-9-1e	50	1508
Zenoria Lbr. Co. 10, 11-9-1e	50	1508
MOREHOUSE PARISH (Monroe)—		
Texas La. Prod. Co., Fisher 1, 34-21-5e	*	2550
OUACHITA PARISH (Monroe)—		
Palmer Corp., Cole 4, 26-20-4e	¶2¼	2312
RICHLAND PARISH—		
United Carbon Co., C. M. Noble 2, 37-15-6e	¶30	2453
Southern Carbon Co., Hunter C-1, 14-16-6e	¶29½	2450
Clements 1, 10-16-6e	¶45½	2440

SOUTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
BAYOU CHOCTAU—		
Texas Gulf Sulphur Co., Wilbert 5	*	690
EAST HACKBERRY—		
The Texas Co., State E. Hackberry 7	*	5289
NAPOLEONVILLE—		
Texas Gulf Sulphur Co., Aucoin 1	*	695

TEXAS

TEXAS GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
BLOOMINGTON—		
The Texas Co., McFadden 1	*	6685
DARST CREEK—		
The Texas Co., Pauline Roamel 4	1076	2549
ESPERSON DOME—		
Cranfill-Reynolds Co., Moores Bluff 6	180	2332
Moores Bluff 7	74	2287
GAY HILL—		
Sun Oil Co., Grote 3	60	1198
GOOSE CREEK—		
Humble O&R Co., Simms Smith 78	*	4990
HUMBLE—		
Sun Oil Co., Bender 14	*	5684
ORANGE—		
Orange Pet. Co., Chesson 13	120	3160
PIERCE JUNCTION—		
Bob Smith & Mike Mouri, Jones 2	*	3140
Warren & Quinlan, Michen 1	1000	4350
REFUGIO—		
Moody-Seagraves Co., Heard 5-A	500	3683
O'Brien 1-A	*	....
L. L. Smith, Rogers 1	520	3648
John Deering, Bennett 2	25	4069
Luling O&G Co., Talman 1	150	6458
SOUTH LIBERTY—		
Empire G. & F. Co., O'Brien 14	*	4473
Trinity Prod. Co., Pickett 1	10	3340
Sun Oil Co., Mitchell 27	*	850
Mitchell 17	5	890

WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
HOWARD COUNTY—		
Greene Prod. & Getty Pet. Corp, Denman 1	120	2826
LOVING COUNTY—		
Phillips Pet. Co., Jim Wheat 2	340	4323
WINKLER COUNTY—		
L. C. Turman et al, Daugherty 1	*	3176
PECOS COUNTY—		
Crosby Prod. & Roy. Corp., Smith 4	1920	1712
UPTON COUNTY—		
C. C. Duffey et al, H. L. McClintic 2	340	1985

EAST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
PANOLA COUNTY—		
Nemours Corp., G. W. Brumble 5, E. F. Mitcheson sur	¶¼	2337
Texas Co., G. W. Brumble 3, Evans Bracken sur.	¶¼	2330

CENTRAL EAST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
VAN ZANDT COUNTY—		
Pure Oil Co., A. W. Ellison 2	600	2957
Mary P. Neills 2	600	1955

TEXAS PANHANDLE

Company, Well and Location	Initial Production Bbls.	Depth
CARSON COUNTY—		
North American O&G Co., F. W. McEwen 1	¶32	2616
Texas Interstate P. L. Co., Burnett (Sec. 84) 1	¶43	2350
GRAY COUNTY—		
Cockrell-McIlroy Oil Co., Harbaugh 1	110	3306
Dulaney & Ward, J. S. Morse 1	*	2892
North American O&G Co., Duncan 1	¶34	2727
Operators Royalty & Prod. Co., Harrah 5	500	3225
HUTCHINSON COUNTY—		
Huber Pet. Co., Johnson-Kelly 1	¶28	2550
Prairie O&F Co., N. H. Read 1	¶14	3223
RANDALL COUNTY—		
Patterson et al, McElroy-Campbell 1	*	1250
WHEELER COUNTY—		
Mid-Kansas O&G Co., Harvey 1	¶84½	1660

NORTH TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
ARCHER COUNTY—		
Bridwell Oil Co. & Gulf Prod. Co., Falls County Fee 1-C	15	1126
Falls County Fee 1-D	12	1135
Joe Cable et al, Scott 1	*	906
Carey & Carey, Falls County Fee 1	20	1215
P. F. Cullum et al, Falls County Fee 1-A	25	1095
B. J. Shaw et al, Ikard 1	*	1160
CLAY COUNTY—		
Crosby Oil Co., Myers 2-A	*	2880
COOKE COUNTY—		
Comail Oil Co., Ball 1	*	2506
A. V. Grant et al, Dennis 3	*	1525
JACK COUNTY—		
Shabey et al, Mask 1	*	2590
MONTAGUE COUNTY—		
Continental Oil Co., Maddox 29-A	¶2½	835
THROCKMORTON COUNTY—		
Kleiner et al, McWhorter 1	*	800
E. J. McCurdy et al, Reynolds 1	*	1400
WICHITA COUNTY—		
R. R. Clark et al, Bickley 10	40	860
Bickley 11	65	862
B. H. Hubbard et al, American Ref. Prop. Fee 1	*	1040
T. F. Hunter et al, American Ref. Prop. Fee 1	*	1902
Roy H. King, George 1	*	1493
Jud Pyle et al, Overby 2	80	1247
WILBARGER COUNTY—		
The Texas Co., Waggoner 386	10	547
NORTH YOUNG COUNTY—		
F. Ard, Jr., et al, Jeffery 1	*	900
C. E. Beavers & Pennell, Cunningham 1	*	614
Belknap Coal Co., Fee 3	160	671
F. E. Butler et al, Finch 2	15	723
Finch 4	*	715
F-H-E Oil Co., Finch 1	60	706
Finch 2	*	865
W. H. Hammon et al, Jeffery 1-A	*	800
Jack Harris et al, Street 1	*	550
King Roy. Co. & Bullington, Graham 7	60	689
Kleiner-Ard & Chancellor, Belknap Coal Co. 1	*	733
C. E. Litchfield et al, Sullivan 1	*	620
Martin & Maer, Jeffery 2	*	850
C. C. Mason et al, Jones 1	*	1152
E. R. Perkins et al, Sanford 1	*	1003
Ramsey & Decker, Cathright 1	*	760
E. R. Riggs et al, Kirkland 3	300	715
Roy Setiz et al, Finch 3	60	634
V. Swanson et al, Owens 1	*	1008
Watson & Webb, Heard 1	*	620
SOUTH YOUNG COUNTY—		
Hamilton et al, Mills 1	*	702
Panhandle Ref. Co., Cox 1	¶11-20	2334
Smith & Shamblin, Belknap Townsite 1	*	632

(Continued on page 94)

PERMITS GRANTED FOR NEW WELLS

TEXAS

ARCHER COUNTY — P. F. Gwynn et al, Wichita Falls, Falls, csl, 50, 1, blk 20, Falls C. S. L. sur, 150 ft from n and 750 ft from w line.

AUSTIN COUNTY—Humble Co., Houston, R. Thompson, 12, W. C. White sur, 4706 ft from nw and 200 ft from sw line.

BROWN COUNTY—Prairie O&G Co., Ranger, B. Turner, 525, 1, M. Duncan sur, 1600 ft from s and 3105 ft from w line. W. G. Sawyer, Brownwood, C. C. Carmichael, 200, 2, B 6, P. McGee sur, 150 ft from s and w lines.

BOWIE COUNTY—W. A. Swift, Maud, R. Merritt, 70, 1, Y. S. McKinney sur, 267 ft from s and 216 ft from w line.

BROOKS COUNTY—F. A. East, Edinburg, B. G. Garcia, 500, 2, No. 1A, La Mestena sur, 300 ft from n and 200 ft from w line.

BURLESON COUNTY—Paul Doran, Fort Worth, J. P. Sparks, 176, 1, H. E. Davis sur, 185 ft from n and 1500 ft from e line.

CALLAHAN COUNTY—W. A. Thompson, Albany, Bell, 80, 1, Sec. 77, Bayland Asy. sur, 150 ft from n and e lines of n½ nw ¼.

CARSON COUNTY—Ryan Consolidated Pet. Corp., Tulsa, W. D. Jordan, 80, 1, S 83, B 4, I&GN sur, 660 ft from n and e lines of sec.

COLEMAN COUNTY — Ewmo Oil Corp., Abilene, R. S. Stearns, 550, 1, S 13, W. Winningham sur, 4927 ft from n and 1142 ft from w line sur.

COOKE COUNTY—W. F. Russell, Gainesville, F. H. Jones, 80, 1, D. C. Robinson sur, 396 ft from n and 150 ft from w line sur.

DUVAL COUNTY—Frasher & Schoolfield, San Antonio, Bishop, 1, Sec. 135, 990 ft from n and 1320 ft from w line sec.

EASTLAND COUNTY — Mays & Niver, Eastland, J. L. Brashear, 40, 2, S 6, B 6, E. T. Ry sur, 1320 ft from n and w lines.

FISHER COUNTY—Roeser, Pendleton & Amerada Pet. Corp., Fort Worth, J. H. Littleton, 320, 1, S 191, B 1, BBB&C sur, 660 ft from n and w lines se¼.

FORT BEND COUNTY—Long Point Synd., Shreveport, Fee, 80, 1, Sec. 68, H&TC sur, 200 ft from nw and 1220 ft from sw line.

GUADALUPE COUNTY—Gulf Prod. Co., Houston, Dix-McKean, 81, 13, J. R. Robinson sur, 1040 ft from e and 150 ft from s line; 14, same sur, 300 ft w of No. 13. H. H. Tadlock, 100, 6, J. C. Darst sur, 750 ft from w and 150 ft from n line. Louisiana O&R Co., Shreveport, Dix-McKean, 73, 6, J. Robinson sur, 320 ft ne of No. 4; 5, same sur, 415 ft e of No. 4. H. H. Weinert, Seguin, R. Miller, 8, 1, J. B. Alexander sur, 150 ft from n and e lines.

GOLIAD COUNTY—Union Prod. Co., Houston, G. A. Ray, 531, 27, J. Gomez sur, 1500 ft from e and 4700 ft from s line sur.

GRAY COUNTY — Operators Royalty & Prod. Co., Tulsa, R. M. Sackett, 160, 1, S 148, B 3, I&GN sur, sw cor of sec.

HARDIN COUNTY—Rio Bravo Oil Co., Houston, Fee, 158, C104A, J. F. Cotton sur, 60 ft e and 100 ft n of No. C95A. Paraffine Oil Co., Houston, Fee, 12, 88, Green sur, 140 ft from s and 216 ft from w line. Rio Bravo Oil Co., Houston, Fee, 158, C103A, J. F. Cotton sur, 200 ft n of No. C95A.

HARRIS COUNTY—Cypress Oil & Dev. Co., Houston, Fitzsimmons, 40, 2, Blk. 4, A. Hirsch sur, 475 ft from w and 175 ft from s line. Sun Oil Co., Beaumont, E. L. Bender, 19, W. B. Adams sur, 390 ft se of No. 18.

JACKSON COUNTY—Texas Unity Oil Co., Houston, C. E. Hungerford, 80, 1, H. Smith sur, 940 ft from sw and se lines.

JEFFERSON COUNTY — Unity Oil Co., Beaumont, McFaddin, 130, 103, P. Humphreys sur, 760 ft from nw and 1170 ft from ne line.

LIBERTY COUNTY— Humble O&R Co., Houston, O. M. Breedon, 2, B. M. Spinks sur, 150 ft from s and 1700 ft from e line. R. A. Wolfe, Houston, D. W. Hornbeck, 42, 1, C. Harper sur, 508 ft from n and 534 ft from e line.

LEE COUNTY—Marts & Beavan, Dallas, W. H. Thomas, 110, 2, G. Dare sur, 150 ft from n and 300 ft from e line.

MAVERICK COUNTY—Texas Gas Utilities Co., Del Rio, Chittim, 7, Blk. 7, I&GN sur, West central part of sec. 116.

For Tabulation and Comparison See Market Section

NUECES COUNTY—Kepley Prod. Co., Laredo, M. V. Donovan, 100, 1, 200 ft from n and e lines.

ORANGE COUNTY—R. G. Crews, Beaumont, Mansfield, 40, 1, J. W. Hill sur, 3000 ft from n and 400 ft from e line.

PANOLA COUNTY—J. S. Dean, Shreveport, G. W. Brumble, 107, 6, E. F. Mitcheson sur, 3900 ft from n and 666 ft from e line sur.

PALO PINTO COUNTY—Noble Lloyd et al, Fort Worth, W. P. Thompson, 668, 1, J. Roberts sur.

PECOS COUNTY—B. C. Mann, San Angelo, Scharff, 80, 1, S 32, B 3, H&TC sur, 3000 ft from sw and 990 ft from se line.

RUSK COUNTY—Anderson Williamson County Properties, Fort Worth, D. Bradford, 4, J. Ximinez sur, 150 ft from n and e lines of Blk. 12. Burgoyne Bros., Dallas, J. A. Alexander, 93, 1, T. Jones sur, 683 ft from e and 400 ft from s line.

ROCKWALL COUNTY — Culbertson & Lynch, Dallas, M. S. Jones, 40, 1, M. Simmons sur, 320 ft from n and 600 ft from w line.

SHACKELFORD COUNTY — Worth Pet. Co., Fort Worth, F. W. Alexander, 80, 1, 585, TE&L sur, 150 ft from ne and se lines of sec.

THROCKMORTON COUNTY — W. J. Grisham, Wichita Falls, W. H. Portwood, 240, 1, M. Watson sur, 150 ft from s and w lines of ne¼.

TRAVIS COUNTY—E. R. Marts, Dallas, Wm. Voelker, 50, 1, Blk. 13, L. Kimbro sur, 150 ft from n and w lines.

UPTON COUNTY—Weekley Oil Corp., Fort Worth, McClintic, 160, 1, S 206, Blk. F, CCSD&RGNG sur, 330 ft from e and 1650 ft from n line sec.

VAN ZANDT COUNTY—Neel & Leray, Van, R. W. Murphy, 79, 1, H. Bailey sur, 450 ft from n and 200 ft from w line.

WALLER COUNTY—Humble O&R Co., Houston, R. Hardy, B, 3, J. E. Groce sur, 550 e and 150 ft s of No. B2.

WEBB COUNTY—Usher Carson, Laredo, D. Benavides, 40, 3, Sec. 1613, Blk. 7, 150 ft from s and w lines. O. W. Killam, Laredo, A. M. Bruni, 320, 1, Sec. 77, 2850 ft from w and 1333 ft from s line s½. E. Garcia, 80, 2, Los Ojuelos sur, 150 ft from e and 605 ft from s line Blk. 43.

WICHITA COUNTY — Walton, Blair & Schlaffke, Electra, W. B. Honaker, 20, 6, Blk. 1, C&M sur, 150 ft from n and 450 ft from w line sur. Schlaffke & Blair, Electra, W. B. Honaker, 36, 5, Blk. 1, C&M sur, 750 ft from n and w lines of sur; 4, same sur, 750 ft from n and 450 ft from w line sur.

YOUNG COUNTY—Wooten & Reed et al, Graham, A. C. Casey, 46, 1B, 1906, TE&L sur, 734 ft from s and 150 ft from w line e½. J. A. Horton, 132, 1906, TE&L sur, 1150 ft from s and 450 ft from w line w½. E. R. Riggs, Graham, J. M. Kirkland, 40, 4, 2249, TE&L sur, 770 ft from n and 1250 ft from w line sec; 3, same sur, 1050 ft from n and 1300 ft from w line sec. Petroleum Prod. Co., Wichita Falls, C. Graham, 48, 7, 2249, TE&L sur, 150 ft from n and w lines; 6, same sur, 150 ft from n and 1050 ft from e line. T. G. Williams, Mineral Wells, N. M. Hilton, 87, 1, 127, TE&L sur, 750 ft from n and 150 ft from e line. Panhandle Ref. Co., Wichita Falls, A. C. Watson, 101, 7, 249, TE&L sur, 1050 ft from s and 1878 ft from e line sec. A. H. & S. P. Schmidt, Wichita Falls, T. J. Routon, 40, 2, 22, TE&L sur, 450 ft from w and 150 ft from s line. F. H. E. Oil Co. & Kimbell, Sherman, Finch, 40, 2A, 31, TE&L sur, 300 ft w of No. 1. C. J. Kleiner et al, Cisco, Belknap, 40, 1, 21, TE&L sur, 150 ft from s and e lines. Kleiner & H-Y Oil Co., Cisco, J. H. Davis, 87, 11, 1487, TE&L sur, 300 ft w of No. 3. McDonald & Campbell, Dallas, J. D. Carpenter, 40, 7, 164, TE&L sur, 450 ft from w and 467 ft from n line sw¼. Moran & Wotola Royalty Corp., Wichita Falls, W. B. Howard, 100, 2, 3401, TE&L sur, 1103 ft from w and 1151 ft from n line. W. R. Duke, Wichita Falls, R. J. Johnson, 80, 1, 714, TE&L sur, 450 ft from s and 150 ft from e line. Martin & Maer, Wichita Falls, S. R. Jeffrey, 200,2,50, TE&L sur, 150 ft from s and e lines. Producer's Supply & Tool Co., Fort Worth, N. Finch, 60, 3, 31, TE&L sur, 150 ft from s and e lines; 2, same sur, 300 ft w of No. 1. Kleiner & Riggs, Graham, J. F. Larimore, 80, 3, 2246, TE&L sur, 450 ft from s and e lines.

ZAPATA COUNTY—South Texas Prod. Co., Houston, M. B. Gutierrez, 200, 1, Sec. 162, 600 ft from nw and 2350 ft from n line of sec. Wm. Marks, Laredo, F. Flores, 40, 1, Por. 37, Blk. 36, 211 ft from sw and 513 ft from se line. Corrected location. Nordan & Morris, Laredo, D. Bustamente, 208, 1, No. 10, Comitas sur, 3316 ft from nw and 150 ft from ne line. Allied Gas Co. & Allen & Morris, Laredo, E. Gutierrez, 432, 13, No. 4, Comitas sur,150 ft from ne and 2763 ft from se line. O. W. Killam, Laredo, M. D. Slator 2, Borrego sur, 1100 ft from ne and 150 ft from se line blk. 64.

ZAVALLA COUNTY—Texas Gas Utilities Co., Del Rio, I. T. Pryor, 2560, 1, ne corner. I. T. Pryor, Jr., 1280, 1, nw corner.

KANSAS

BUTLER COUNTY — Blakely and Wentz, Holliday 1, sw c ne 24-27-4e.

CHAUTAUQUA COUNTY — Below et al, Fulgamore 1, sw c nw 9-35-11e.

COMANCHE COUNTY — Empire O&R, Jackson 1, se c 28-34-17w.

ELLSWORTH COUNTY—J. A. Aylward et al, Stratman 1, se nw se 1-17-10w.

McPHERSON COUNTY—Shell Pet. Corp., Lewis 1, nw c se 30-19-1w.

ROOKS COUNTY—Empire O&R, Holsman 1, ne sw se 17-7-20w.

SEDGWICK COUNTY — Derby Oil Co., Rimel 3, sw ne ne 30-27-2e.

STEVENS COUNTY—Trees Oil Co., Meyers 1, c se 27-34-39w.

OKLAHOMA

CADDO COUNTY—Carter Oil Co., Melton 1, (owdd) c nw se 26-6n-10w.

COTTON COUNTY—Gilbert and Lowery, Forney 1, c se se 4-2s-11w.

CREEK COUNTY — C. G. Tibbens O&G, Waters 4, c se se 6-14-9e. Curtis Oil Co. et al, Oak 1, nw c se 26-19-9e.

JEFFERSON COUNTY—Brown and Gouin et al, Cox 1, sw nw ne 25-7s-6w.

LATIMER COUNTY — P. English et al, Weaver 1, c nw se 16-6-19e.

MARSHALL COUNTY — Mutual O&G, Sharp 1, nw c se se nw 3-5s-6e.

MUSKOGEE COUNTY—Braman Oil Co., Jackson 1, cel se nw 17-13-16e. J. A. Evans et al, Sango 1, cnl sw se 18-14-18e. J. W. McQuown et al, Smith 1, ne c sw nw nw 6-14-19e. J. P. Flanagan, Sanders 1, sw c 18-15-19e.

NOBLE COUNTY—Empire O&R, Fraler 2, sw c ne 4-20-1w.

OKFUSKEE COUNTY—Mid-Continent Pet. Corp., Dindy 2, (owdd) sw nw ne 31-11-11e. Atlantic Oil Prod. Co., Fisher 4, (owdd) sw nw se 36-12-10e.

OKLAHOMA COUNTY—Phillips Pet. Co., Johnson 1, se c nw sw se 3-11-3w. Anderson-Prichard Oil Corp. and Phillips Pet., Hathaway 1, sw c se nw ne 10-11-3w.

OKMULGEE COUNTY—Denton and Marshall, Woffard 1a, ne c sw sw 5-14-14e. Jenkins, Dodge et al, Cousino 1, ne c sw 2-15-12e. Clarmont Oil Co., Lewis 1, cel ne nw 12-15-12e. Kirkland and Son, Long 3, c ne ne 18-15-13e.

OSAGE COUNTY — Oliphant and Boston Heights Oil Co., 4, ne c se 10-21-8e (twin). Bacon and Voyles 8, sw e nw sw 30-23-9e.

PAYNE COUNTY — Magnolia Pet. Co., Groves 2, (owdd) se c nw 27-19-4e.

POTTAWATOMIE COUNTY—Gypsy Oil

Co., Horn 3, se nw ne 23-6-3e. Donohue and Pearson, Farley 1, nw c 25-6-3e. Deep Rock Oil Corp., Gibson 5, ne sw ne 23-6-3e.

SEMINOLE COUNTY — Mid-Co. Oil Co. and Atkins, Lasley 1, (owdd) ne c nw 15-9-8e.

STEPHENS COUNTY — Carl Wiley, Gilmore 1, sw c ne se ne 10-2s-5w.

WAGONER COUNTY—C. D. Bradley et al, Jacobs 1, ne c se nw 7-15-17e. A. W. Swift et al, Chockley 1, se c sw 27-17-16e. R. L. North, Roberts 1, ne c nw ne 6-17-17e. J. H. Striker, Prince 4, ne c sw 29-18-16e. Brasheers, Watson 1, se c sw ne 31-18-17e.

CALIFORNIA

KERN RIVER—California Star Oil Co., No. 4-40, 22-28-27.

LONG BEACH—Anchor Pet. Co., 1, 13-4-13, Graham-Loftus Oil Corp., Maharg 1, 18-4-12.

ORANGE COUNTY—The Texas Co., Olive Comm. 1, 7-4-9.

PLAYA DEL REY—Chanel Oil Co. 1, 28-2-15. Drexel Oil Co. 1, 21-2-15. The Elmer Oil Co. 8, 28-2-15. The Ohio Oil Co., Block L-2, 28-2-15. Vicar Pet. Corp. 1, 28-2-15. California Northern Corp. 3, 28-2-15. The Ohio Oil Co.s' Recreation Gun Club 8, 28-2-15.

LOS ANGELES COUNTY—Mack Oil Co. 1, 6-2-16.

VENTURA—Associated Oil Co.'s V.L.W. 2, 23-3-23; Lloyd 104, 23-3-23.

LOUISIANA

CADDO PARISH—Bayou State Oil Corp., Shreveport, Barr 6, 30-22n-15w, 425 ft w and 470 ft n se cor se¼ of sw¼. R. H. Libby et al, Shreveport, Foster 1, 29-15n-16w, 300 ft s and 300 ft w of ne cor of se¼.

CALCASIEU PARISH—The Wilson Broach Co., Beaumont, Strip 5, 33-10s-12w, 50 ft n and 226 ft e of sw cor se¼ of ne¼.

CAMERON PARISH — Calcasieu Oil Co. Inc., Sulphur, Valery Dorion 9, 36-12s-10w, 2495 ft w and 475 ft s of se cor of sec 13-12s-10w in sec 36. Calcasieu Oil Co. Inc., Sulphur, Watkins 23, 13-12s-10w, 2495 ft w and 132 ft n of se cor of sec. Shell Pet. Corp., St. Louis, Black Bayou State 2, 18-12s-12w, 1578.6 ft s and 1387.2 ft w of ne cor of sec. R. E. Siess, Tr., Lake Charles, J. M. Vincent 2, 30-12s-10w, 2395 ft s and 1355 ft w of ne cor of sec.

DE SOTO PARISH—Standard Oil Co. of La., Shreveport, F. A. Hoell 1, 32-14n-13w, 264 ft e and 170 ft n of sw cor of sec.

RICHLAND PARISH — Hope Prod. Co., Monroe, H. L. Thomason 2, 11-16n-6e, 669 ft e and 660 ft s of nw cor of sec. La. Gas & Fuel Co., Houston, Glanton 1, 23-17n-6e, 362 ft e and 618 ft n sw cor nw¼ of se¼. United Carbon Co., Monroe, Cooper 2, 13-16n-6e, 660 ft n and 355.1 ft e of sw cor of sec.

ST. LANDRY PARISH—Gulf Refg. Co. of La., Houston, W. H. Hoskins A-4, 4-6s-5e, 850 ft s along e of Gulf Refg. Co., 110 ac. W. H. Hoskins "A" lease from ne cor of same and 50 ft at rt. angles.

ST. TAMMANY PARISH—W. & Sr. Drlg. Co., Franklin, Crassark 2, 5-6s-10e, 1520 ft n and 200 ft e s¼ cor of sec.

WEBSTER PARISH—C. D. Neff, Shreveport, Gardner 2, 1-22n-11w, 175 ft from w line and 175 ft from n line of ne¼ of sec.

Christian Iden, geophysical contractor and interpreter, Houston, sails from New York December 16, accompanied by his wife, to spend two months visiting his parents in Bremen, Germany. This is his first return to his former home since coming to America seven years ago with the North American Exploration Company. Since that time he has been associated with Gulf Production Company, and is now associated with Cranfill-Reynolds. He has to his credit the location of Esperson dome in Liberty County, Texas, which was a torsion balance job.

Paul H. Sisk, factory representative for SKF Industries, Inc., spent several days early in December in the Gulf Coast territory working with equipment manufacturers. His services with the company are devoted to cooperating with manufacturers of oil country equipment in the application of bearings. His headquarter office is 2102 Jackson Street, Dallas.

COMPLETIONS

(Continued from page 92)

CENTRAL WEST TEXAS

BROWN COUNTY—
Leiner & Walker, Rutherford 2 ..... ¶2¼ 810
McCarter et al, Harris 1 ..... * 1342
McLean et al, Byler 1 ..... * 1545
Stratton & Gully, King 1 ..... * 1501
Young Bros. & Alexander, Kilgore 3 305 1220

CALLAHAN COUNTY—
Production Pur. Co. & Campbell Oil Corp., Horn 2 ..... * 1346

COLEMAN COUNTY—
Atlantic Oil Prod. Co. et al, Taylor 1 (dd) ..... * 2662

PALO PINTO COUNTY—
Lone Star Gas Co., Belding 1 ..... ¶1 4061
TP Coal & Oil Co., H. Bird Fee 2.. ¶9 2996

SHACKELFORD COUNTY—
Carter Dev. Co., Nail (Sec. 137) 1.. * 1659
Gilman & Gulf Prod. Co., Frasier 1-A ..... * 852
H. & H. Drlg. Co., Walker 1.... * 372

NEW MEXICO

LEA COUNTY—
Continental Oil Co., State 1-C..¶15-20,000 4178
Humble O&R Co., State 2-A....¶30-3960 4230
State 3-A .....¶3-2785 4220
Mid-Continent Pet. Corp., C. Fowler 1 .....¶3-2590 4220
Midwest Ref. Co., State 26 (sy¼) .....¶2½-2527 4190

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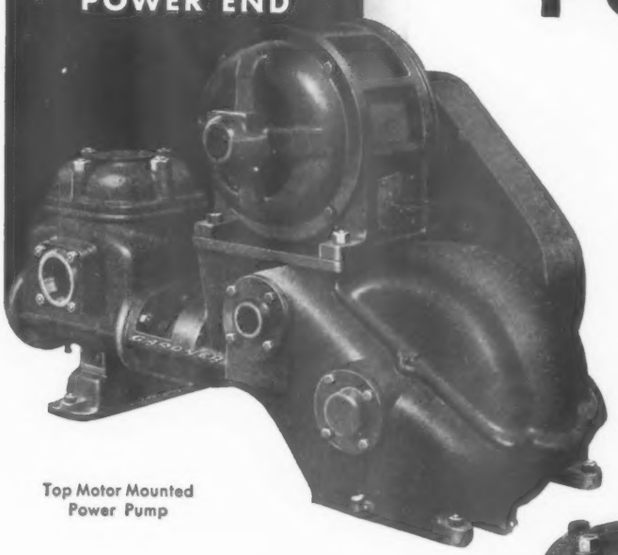

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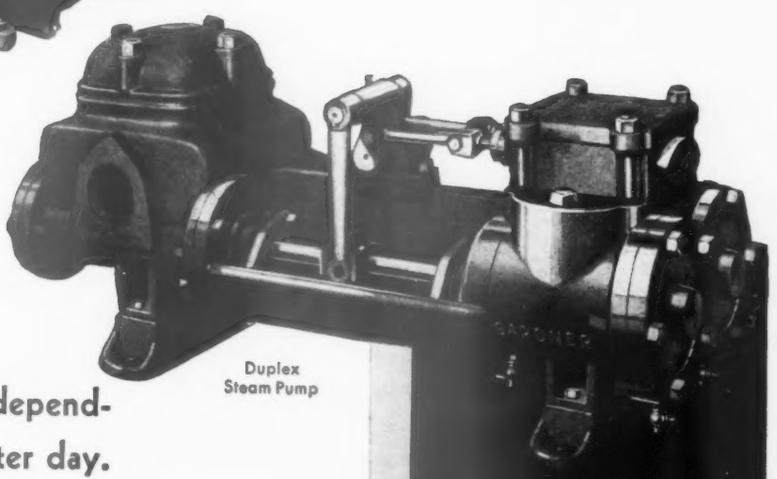

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WILDCATS FROM ALL SECTIONS

WEST TEXAS

Completions

PECOS COUNTY—
Humble O&R Co., Mrs. C. L. Thompson 1-B ..... * 3575

REEVES COUNTY—
The California Co., Kloh 1 ..... * 4378

RUNNELS COUNTY—
Boyce & Lamar, Lange 1..... * 2643

ANDREWS COUNTY—Deep Rock Oil Co. et al's Kuykendall 1, dr 845 ft.

BREWSTER COUNTY—Trans-Pecos O&G Co.'s Jones 1, elev 3073 ft, sd 2510 ft.

COCHRAN COUNTY — Continental Oil Co.'s Slaughter 2, lcn.

CONCHO COUNTY—Beesley et al's Waring 1, sp and sd. A. W. Turner-Cromwell & Wesner's Brosig 1, co 1520 ft.

CRANE COUNTY—Cranfill Bros. Oil Co. et al's J. T. Muir 1, elev 2499 ft, top salt 485 ft, top white lime 2330 ft, set 6⅝ cas 3800 ft, dr 3812 ft. Cranfill & Gulf Prod. Co.'s J. B. Tubb 1, elev 2526 ft, salt 505 to 1400 ft, top brown lime 1415 ft, top white lime 2455 ft, making gas with spray oil, drilled by tools, td 4488 ft.

CROCKETT COUNTY—John W. Dieringer et al's G. Barnscorew 1, top salt 955 ft, dr 655 ft. Magnolia Pet. Co.'s A. C. Hoover 2, sd 2056 ft. Taylor-Link Oil Co.'s Mary Bullock 1, top salt 1090 ft, set 8¼ cas 1555 ft.

CULBERSON COUNTY—Cranfill Bros. & Carl Shoults et al's Mrs. J. P. Seay 1, sp and sd. Grisham-Hunter Corp.'s W. D. Garren 2, sd 1520 ft. W. L. Kornrumpf et al's Garren 1, dr 1165 ft.

DAWSON COUNTY—R. A. Albaugh et al's John Robinson 1, rig.

ECTOR COUNTY — Southern Crude Oil Pur. Co.'s Cowden 2, dr 1025 ft. H. F. Wurtz et al's Ibbetson 1, elev 2840 ft, top salt 865 ft, dr 3280 ft.

EDWARDS COUNTY—Dalgish et al's Peterson 1, elev 2345 ft, dr 5125 ft. Phillips Pet. Co.'s Holman 2, estimated one half million feet gas at 6654-55 ft.

FISHER COUNTY — Condor Pet. Co. & Humble O&R Co.'s Wilson 1, elev 1879 ft, dr 2175 ft. Cranfill-Reynolds Co.'s Flannigan 2, sd 3130 ft; Willingham 3, sd 3090 ft., Roeser-Pendleton, Inc.'s, Littleton 1, rig. The Texas Co.'s Stephens 2-A, elev 1936 ft; M. Teagarden 2-B, elev 1870 ft, cem 8¼ cas 2832 ft.

GAINES COUNTY—Texas Consolidated Oil Co.-T&P Coal & Oil Co.'s E. H. Jones 1, rig.

GLASSCOCK COUNTY—F. H. E. Oil Co.'s J. W. Meek 1, top salt 1120 ft, dr 2810 ft.

TOM GREEN COUNTY—Belding & Dutton's Norsworthy 1, sd 765 ft. Mintex Oil Co.'s Campbell 1, ur 1850 ft. Phillips Pet. Co. et al's Jennings-Gulden 1, elev 2016 ft, sd 5010 ft. Pratt & Hancock's Lewis 2, sd 200 ft.

HOWARD COUNTY—Greene Prod. Co. & Getty Pet. Corp.'s Snyder 1, elev 2314 ft, top lime 1790 ft, trace oil 2930-38 ft, sd 3002 ft. McGinley-Sigler Corp.'s Hyman 1-B, elev 2349 ft, top lime 1918 ft, dr 2340 ft.

HUDSPETH COUNTY—G. R. Theison et al's University 1, sp and sd.

IRION COUNTY—Central Oil Co. (W. E. Newton's) H. Horney 2, fsh 1235 ft. Cromwell et al's Tankersley 1, elev 2520 ft, sd 1712 ft. Dixie Oil Co.'s W. H. Williams 1, sp and sd. Straughn & Texanatti Oil Co.'s Tankersley 1, elev 2306 ft, fsh 1440 ft. F. E. Webb & Brazelton's Williams 1, elev 2363 ft, sp and sd. P. H. Williams et al's Noelke 1, sd 3401 ft.

JONES COUNTY—McBest et al's Roberts 1, sd 1000 ft. Shaheen & Duffy's King 1, lcn. Union Oil Co. et al's Hedrick 1, dr 1380 ft. Sam Yingling et al's L. R. Cade 1, dr 1610 ft.

LOVING COUNTY — The California Co.'s Reagan-McIlvain 5, top salt 770 ft, dr 4110 ft; Reagan 6, top salt 740 ft, dr 2680 ft; Reagan 7, rig. Carl Cromwell & Atlantic Oil Prod. Co.'s Geo. B. Russell 1, rig. Douglas et al's Wheat 1, lcn. A. R. Eppenauer Drlg. Co. et al's Allen 1-A, salt 850 to 4094 ft, top lime 4285 ft, flowing oil by heads at 4307-09 ft. Henshaw et al's Reagan 2, rig. Lewis & Slagel Drlg. Co.'s Cartwright 1, sp and sd.

ABBREVIATIONS

NOTE—the following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls—barrels; b.s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in.—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr — straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

C. H. Lockhart et al's F. W. Hubbard 1, cellar. Lockhart & Co.'s Allen 4, dr 530 ft. Miller-Burge & Healy's Chapman 1, top salt 750 ft, co to dd after shot 175 qts at 4285-4326 ft. H. W. Martin et al's Wheat 1, lcn. Rush-Anderson & Moor's Wheat 1, dk.

MENARD COUNTY—J. C. Barnett et al's Callan 3, elev 2077 ft, dr 1945 ft. L. G. Priest et al's Sorrells 1, elev 2279 ft, set 5 3/16 cas 2520 ft.

MIDLAND COUNTY — Kirwin et al's J. M. Mathena 1, top anhydrite 1550 ft, salt 1610 to 2385 ft, sd in red rock 3682 ft.

MITCHELL COUNTY — Lewis & Slagel Drlg. Co.'s A. M. Bell 1, elev 2278 ft, top lime 1700 ft, trace oil 2430-34 ft, dr 2440 ft.

PECOS COUNTY—J. R. Bell et al's H. J. Eaton 1, sp. Bell & Humble O&R Co.'s Scharff-Blackman 1, elev 2426 ft, top salt 940 ft, set cas 1543 ft, td 1564 ft. Charlesworth-Messenger Oil Co.'s Butz 1, elev 2519 ft, set 5-inch cas 1150 ft. E. L. Chapman et al's Streety 1, elev 2653 ft, sd 2210 ft. Cosby Prod. & Roy. Corp.'s Cordova 1, elev 2320 ft, top salt 725 ft, top lime 1826 ft, sd hfw 3015 ft. C. L. Dittman Drlg. Co. et al's Eaton 2, lcn; Eaton (Sec. 37) 1, dr 310 ft; Jackson 1, machine. Humble O&R Co.'s H. L. Kokernot 1, elev 3593 ft, top salt 2713 ft, top black lime 3981 ft, fsh tools 6170 ft. B. C. Mann et al's Scharff-Blackman 1, sp and sd. McCarty Oil Co.'s Gray 3, sd 1420 ft. J. R. Miller et al's Bennett 1, sd 1700 ft. J. D. O'Mara et al's Bennett 1, elev 2508 ft, sd 1230 ft. O. J. Perren et al's Eaton 2, elev 2437 ft, fsh 1765 ft. Pure Oil Co.'s Harrison 1, elev 3495 ft, top Delaware 4265 ft, top sand 4282 ft, temp abn in black shale and gray lime 5000 ft. Rio Grande Oil Co.'s Webb 1, dr 2640 ft. Riser & White's Riser 1, sd 405 ft. Schelling & Slaughter's Yates 1, sd 340 ft. Sides & Cloyd's Blackstone-Slaughter 1, dr 3035 ft. Southern Crude Oil Pur. Co.'s Scharff-Blackman 1, dr 800 ft. Williams & Moran's Heiner-State 1, elev 2528 ft, dr 1190 ft.

REAGAN COUNTY — Big Lake Oil Co.'s University 179, pulled 9⅝ cas and tore down tools, td 4003 ft; University 5-C, showing oil and gas at 8160-65 ft, reaming core hole 8171-8234 ft; University 6-C, lcn. Group One Oil Corp.'s University 4-B, dr lime 7532 ft. T. B. Slick et al's August 1, elev 2609 ft, top salt 1095 ft, fsh 2390 ft.

REEVES COUNTY—The California Co.'s Kloh 1, abn 4378 ft; Kloh 2, materials.

RUNNELS COUNTY—Chas. Dutton et al's G. W. Dean 1, dr 1850 ft.

SCHLEICHER COUNTY — Delmar Oil Co.'s O'Harrow 1, elev 2421 ft, dr 5670 ft. Eastland Oil Co. Unit Plan's Tisdale 1, lcn. Munger-Wilson Oil Co.'s Page 1, elev 2270 ft, sd 5053 ft. Paul Teas & Walter Gant's Allison 1, elev 2311 ft, sd 3960 ft. J. D. Wesner et al's R. E.Ratliff 1, sd 750 ft.

SCURRY COUNTY—Camp Springs O&R Co.'s Strayhorn 1, sd 875 ft. Mid-Kansas O&G Co.'s Peckham 1, elev 2155 ft, sd 4513 ft. R. B. Pender O&G Co.'s Davis 1, elev 2208 ft, top salt 445 ft, ur to set 5-inch cas 5000 ft. Scurry County Oil Exchange's C. H. Earnest 1, cellar. Seifert & Dibble's Blackburn 1, top salt 720 ft, sd 1175 ft.

STERLING COUNTY—W. C. Beesley et al's W. L. Foster 1, elev 2518 ft, co 550 ft.

TAYLOR COUNTY — Eastland Oil Co. et al's A. W. Hunter 2, co and rated 10 bbls oil at 2388-94 ft, td 2405 ft. Herring-Hucony Gas Co. et al's Richie 1, elev 1978 ft, dr 2585 ft. J. B. Jameson et al's Webb 1, elev 1905 ft, co after set 3-inch cas 6251 ft. Sanger et al's Abilene Fee 1, elev 1759 ft, dr 1770 ft. Sanger O&R Co.'s Osborn 1, rig.

TERRELL COUNTY—Big Bend Oil Corp. et al's Bassett 1, elev 2396 ft, co 2670 ft. Mid-Kansas O&G Co.'s Goode 1, elev 2405 ft, sd 5226 ft.

VAL VERDE COUNTY—O. O. Owens et al's Mills 1, elev 2130 ft. Phantom Oil Co.'s Ingram 1, sd 3035 ft.

UPTON COUNTY—Gulf Prod. Co.'s J. H. Shirk 1, dr 750 ft; McElroy 90, dk. C. C. Duffey et al's McClintic 3, rig. Eppenauer Drlg. Co. et al's Chaney 5, dr 215 ft. R. H. Gill et al's J. H. Shirk 1, dr 130 ft. Continental Oil Co.'s Cowden 1, rig. Humble O&R Co.'s Damron 1, sp. Penn Oil Co. & Shell Pet. Corp.'s J. M. Halamicek 1, Sec. 93, materials. TP Coal & Oil Co.'s King 1, top salt 1150 ft, sd 1640 ft. Weekly Oil Corp. et al's McClintic 1, dr 120 ft; Shirk 1, cem cas 2500 ft.

WARD COUNTY—Alpine Oil & Dev. Co.'s Boogher 2, top salt 795 ft, dr 1575 ft. California Co. & Atlantic Oil Prod. Co.'s S. R. Allen 1, set 8¼ cas 2268 ft, td 2322 ft. Black & Massey's Allen 1, top salt 800 ft, dr 1165 ft. Empire Gas & Fuel Co.'s Sealy 1, top salt 1175 ft, dr 1210 ft. Grand Falls Oil Co.'s Blair-Boogher 1, top salt 765 ft, dr 910 ft. Gulf Prod. Co.'s Hutchings 6, std rig; O'Brien 15, top salt 1145 ft, top brown lime 2290 ft, flowing 30 bbls oil daily at 2625-2860 ft. J. G. Kugle et al's Chas. Wallis 1, dr 545 ft. Magnolia Pet. Co.'s Atlantic-Sealy 1, rig; John Sealy 1, top salt 2090 ft, top lime 2700 ft, flowing 21 bbls 29.2 gravity oil daily after two shots in lime 3036-65 ft. R. F. Owen et al's Johnson 1, elev 2499 ft, sd 1200 ft. Rector Oil Co.'s Boogher 1, dr 510 ft. Sid Richardson et al's O'Brien 5, top salt 1135 ft, top lime 2315 ft, tested 75 bbls oil and 7 mil ft gas 2654-2769 ft, running 2700 ft 2½-inch tubing. Rickford & Smith's Johnson 1, dr 715 ft. Shipley Oil Corp.'s Monroe 1-A, elev 2655 ft, top salt 2485 ft, dr 3135 ft. TP Coal & Oil Co.'s James 1, ur 10-inch cas 940 ft.

WINKLER COUNTY—Magnolia Pet. Co.'s M. J. Bashara 1, dr 810 ft; J. B. Walton 1, lcn.

CENTRAL EAST TEXAS

Completion

VAN ZANDT COUNTY—
Bethel Oil Co., P. Smith 1 (dd)... * 4605

ANDERSON COUNTY — Frost Oil Co.'s Botting 1, A. B. Patton sur, dr 2490 ft. Humble O&R Co.'s J. W. McCaffrey 1, I&GN Ry. sur, A-418, elev 365 ft, top broken Pecan chalk 2875 ft, hard chalk 2938-3163 ft, top Austin chalk 4041 ft, dr 4444 ft.

BOWIE COUNTY—Lee Timberlake et al's Tidwell 2, L. M. Rice sur, sp and sd. Joe Burnham et al's G. W. Burnett 1, M. H. Janes sur, top Annona chalk 1430 ft, top chalk 2906 ft, sd 3150 ft. Maud Redwater Oil Co.'s Merritt 1, Y. S. McKinney sur, sd 635 ft.

CASS COUNTY—Wesley Morse et al's Henderson 1, C. C. Bailey sur, dk. Phillips Pet. Co.'s J. R. Olds 1, J. A. Stephenson sur, elev 245 ft, top Saratoga chalk 1935 ft, top Annona chalk 1955 to 2480 ft, cored water sand and sd 3172 ft. Olds-Smith et al's Joe Athenay 1, J. C. Byers sur, lcn. John C. Rogers et al's Lanier 1, K. A. Welborn sur, elev 366 ft, top Annona chalk 2144 ft, sd in shale 2270 ft. The Texas Co.'s Citizens State Bank 1, Jos. Watkins sur, elev 339 ft, top Saratoga chalk 2260 ft, Annona chalk 2363-2855 ft, water sand 3793-98 ft, dr 3885 ft.

CHEROKEE COUNTY—Arcadia Ref. Co.

A proved solution for "HOT SPOTS"

Byers Genuine Wrought-Iron Pipe

Steady, unbroken service is a demand of the oil and gas industry. "Hot spots" are expensive and troublesome. Because of its resistance to corrosion and reliability in "hot-spot" areas Byers Genuine Wrought-Iron Pipe is economy in pipe installation on a basis of cost per year of operation. Its unusually satisfactory service in the oil fields of the American Southwest is rapidly extending to world-wide recognition. True economy cannot result through the substitution of cheaper pipe material in those places where service experience prescribes the use of wrought-iron. If the information at your disposal is not a sufficient guide in knowing what may be expected of wrought-iron, we offer the counsel of our field engineers.

BYERS • GENUINE • WROUGHT-IRON PIPE

An investment — not an outlay

& Buder's Jones Gin Lot 1, elev 481 ft, dr 1980 ft. D. H. Byrd et al's W. H. Felder 1, Brooks Williams sur, sd 603 ft.

DELTA COUNTY—D. S. Hoad et al's J. J. Baker 1, T. P. Eddin sur, dr 1205 ft. Worthington & Stedham's W. H. Dejernett 1, S. Chick sur, sd 605 ft.

ELLIS COUNTY — Foster & Richardson's Moise-Cerf 1, sd 2187 ft. E. M. Rogers et al's J. L. Winn 1, O. Wheeler sur, fsh 1360 ft.

FANNIN COUNTY—Ed. V. Parsons et al's Morgan 1, J. E. English sur, elev 668 ft, sd 3435 ft.

FRANKLIN COUNTY — Harper-Byers Oil Co.'s A. J. Laws 1, D. G. Rogers sur, dr 1715 ft.

GREGG COUNTY — W. A. Moncrief-J. E. Farrell & Arkansas Fuel Oil Co.'s F. K. Lathrop 1, Wm. Robinson sur, sp and sd. W. T. Daniel & Mrs. Mamie Hammond's Hamby 1, John Lout sur, elev 376 ft, top Saratoga chalk 2361 ft, sd 2590 ft.

HENDERSON COUNTY—H. B. Ashburn et al's T. E. Terry 1, Arron York sur, elev 397 ft, Pecan chalk 2810-3015 ft, dr 3515 ft. E. L. Chapman et al's Cade 3, J. B. Dorsey sur, dr 615 ft. Texas-State Oil Co. & R. H. Dearing et al's T. H. Skinney (20-ac) 1, J. Hinshaw sur, elev 453 ft, Pecan chalk 2500-2603 ft, Austin chalk 3559-3977 ft, top Woodbine sand 4400 ft with trace oil 4403-07 ft, dr sandy shale 4441½ ft.

LIMESTONE COUNTY — Imperator Oil Corp. et al's B. B. Baron 1, E. Mabry sur, sp and sd. E. E. O'Byrne & Chapman's S. W. Hancock (37-ac) 1, H. York sur, dk. Geo. B. McCamey et al's Kosse Townsite 1-A, skid machine. A. Yost-Bill Reiter et al's S. J. Fenner 1, H. C. Hoskins sur, sp and sd.

NAVARRO COUNTY—L. G. Priest et al's H. Albritton 1, H&TC sur, top Austin chalk 2276 ft, sd in chalk 2530 ft.

RED RIVER COUNTY—D. M. Buffington et al's L. H. Moore 1, D. Cornelius sur, Annona chalk 3 to 241 ft, sd 575 ft. E. L. Chapman et al's Morris-Guest 1, S. Larkin sur, sd 1505 ft. Droppleman & Bundy's J. W. Cunningham 1, S. V. Shi sur, sd 1250 ft. Johnson Pet. Co.'s Style 1, Dean sur, sd 2215 ft. Lloyd Oil Corp.'s R. H. Mace 1, Wm. Cullum sur, Annona chalk 590-910 ft, dr 1605 ft.

RUSK COUNTY—J. Alford et al's Wallace-Thrash 1, R. H. Pinney sur, dk. Andy Anderson-Kimbrough & Miller's D. Bradford 1, elev 396 ft, top pecan chalk 2500 ft, sd after testing dry hole at 3592 ft. Ed. W. Bateman et al's L. D. Crim 1, E. Sevier sur, A-69, elev 403 ft, Navarro 1830-68 ft, top Saratoga chalk 2275 ft, top Taylor 2350 ft, Pecan chalk 2608-3014 ft, dr 3270 ft. Dan Dillon et al's Frederick 1, dk. E. L. Chapman et al's A. P. Finney 1, dk. Frank Files (O'Mara & Meredith's) Robertson 1, dk. Frank Foster & Deep Rock Oil Co.'s C. D. Ashby (60-ac) 1, elev 429 ft, Pecan chalk 2604-3014 ft, top Austin chalk 3450 ft, cemt 6⅝-in cas 3580 ft to test sand 3597-3614 ft. H. L. Hunt et al's D. Bradford (17-ac) 1, elev 391 ft, top Pecan chalk 2332 ft, first hard chalk 2500 ft, cemt cas 3525 ft, to test oil sand 3542-86 ft, td in lime 3645-50 ft. Tex Lloyd et al's Camp (5-ac) 1, elev 408 ft, set 6⅝-in cas 3531 ft. J. K. Lewis & Abe Goodman's O. C. Jones (15-ac) 1, sd 850 ft. Patton & Harrell's Frederick 1, lcn. C. Rosenfield-Cranfill-Reynolds-Arkansas Fuel Oil Co. et al's E. L. Pinkston 1, M. V. Pena sur, elev 363 ft, co 2015 ft. Stroube & Stroube's W. H. Frederick (14-ac) 1, repairing fire damage after partially completing Dec. 2 in sand at 3526-68 ft, td 3618 ft. Wainwright-West Oils, Ltd.'s Moore 1, materials.

SMITH COUNTY—Owen-Sloan Oil Co. et al's J. H. Starnes 1, J. W. Allen sur, elev 417 ft, Pecan chalk 2738-3052 ft, sidetracking drill stem 3770 ft. T. B. Slick & J. G. Kugle, Jr. et al's M. Freeman 1, A. J. Lagrone sur, elev 498 ft, Pecan chalk 2980-3275 ft, dr 3685 ft. Sun Oil Co.'s Oscar McGehee 1, Thomas Quevedo sur, elev 428 ft, dr marl and shale 2975 ft. Thayer & Rogers' Dr. Willingham 1, Jacob Herrin sur, sd 2000 ft.

TITUS COUNTY—Deep Rock Oil Co.'s Ed. L. McElroy 1, Kendall Lewis sur, elev 460 ft, Pecan chalk 2424-54 ft, dr sticky shale 3400 ft.

UPSHUR COUNTY — McGinley Corp.'s Reeves-Truitt 1, L. B. Brown sur, rig.

VAN ZANDT COUNTY—J. C. Fore & Geo. L. Pace et al's P. S. Hand 1, Wm. Sherman sur, Pecan chalk 2420-44 ft, top Austin chalk 3452 ft, dr 3515 ft. Hartt Pet. Co.'s M. L. Cox 1, A. C. Nugent sur, sp and sd. Neil McElroy et al's R. W. Murphy (159-ac) 1, H. Bailey sur, sp and sd. T. W. Moore et al (was Ward Powell's) W. A. Kellam 1, J. Russell sur, elev 515 ft, top Pecan chalk 2782 ft, Austin chalk 4032-4380 ft, salt water 4468-4508 ft, dr 4540 ft. Van Oil Assn's J. C. Tankersley 1, L. Landers sur, dr 1045 ft.

VAN FIELD—Cranfill & Germany, Inc.'s Swain (5-ac strip) 1, sp and sd. Hartt Pet. Co.'s Swain (2-ac strip) 1, sp and sd. Helms et al's C. E. Bogue 1, M. University sur, elev 461 ft, sd 2212 ft. Humble O&R Co.'s R. S. Blake 5, elev 493 ft, Pecan chalk 1950-62 ft, Austin chalk 2344-2495 ft, top Woodbine sand 2596 ft, coring for seat 2600 ft; Blake 6, rig. Pure Oil Co.'s Sam Allen 1, top Austin chalk 2511 ft, coring 2942 ft; A. D. Clark (42-ac) 2, top Austin chalk 2474 ft, completing 2924 ft; N. E. Clark (89-ac) 4, cemt cas 2793 ft; Clark 5, dr 300 ft; W. H. Cook (86-ac) 2, completing 2972 ft; Davis 1, dk; H. C. Gilbert 1, top Austin chalk 2253 ft, dr 2910 ft; D. R. Howell (60-ac) 3, cemt cas 308 ft; R. A. Howell (22-ac) 2, top Pecan chalk 1479 ft, top Austin chalk 2344 ft, dr cemt plug 2632 ft; Mary P. Neills 3, sp; M. F. Shirley (38-ac) 3, cemt cas 300 ft; O. L. & L. L. Swain (43.8-ac) 3, rig; W. F. Swain (40-ac) 2, shut in, td 2924 ft; J. T. Taylor 2, cemt cas 2659 ft; A. R. Tunnell (101.2-ac) 5, dr 410 ft; Wells 5, dk; Ella York 2, rig. Shell Pet. Corp.'s E. L. Fowler (32.65-ac) 8, top Pecan chalk 1470 ft, cemt cas 2578 ft, td 2582 ft. Sun Oil Co.'s Thompson 3, dk. The Texas Co.'s R. A. Tunnell (100-ac) 4, cemt cas 2731 ft. Roy Stumpff et al's L. K. Riggs (3-ac strip) 1, elev 455 ft, dk. Vantex Oil Co.'s L. A. Smith (2-ac strip) 1, dk.

WOOD COUNTY—Wood County Dev. Co.'s Ricks 1, Daniel Fuller sur, sd 1000 ft.

Drill in Colusa and Glenn Counties, California

San Francisco.—C. M. Weatherwax and F. C. Dougherty of San Francisco will start drilling operations on a large block of acreage in Colusa and Glenn counties within the next three months. Most of the leases are located on the Sites structure, which was drilled several years ago by Continental Oil Company. A unit plan of operation has been agreed upon, the development of a supply of natural gas being the chief objective. Gas was found in the original test but discovery of a larger supply in other fields diverted attention from this semi-proven area.

EAST TEXAS

CASS COUNTY — Wesley Moore et al's Henderson 1, C. C. Bailey sur, dk. Texas Co.'s Citizens State Bank 1, Jos. Watkins sur, top chalk 2260 ft, top Pecan gap 2860 ft, coring shale 3866 ft. Jno. C. Rodgers' Lanier 1, K. A. Welborne sur, sd 2270 ft; Williams 1, Moses Frazier sur, dk pat. Phillips Pet. Co.'s J. R. Olds 1, J. Stephenson sur, coring sand 3174 ft.

HARRISON COUNTY — Shell Rock Pet. Co.'s Daugherty 1, Burris sur, sd 3537 ft.

MARION COUNTY—Trammell et al's Hussey 1, Chas. Lockhart sur, elev 282 ft, top chalk 1771 ft, claimed oil show in 2 ft hd chalk 1882-4 ft, sd no cas set 1887 ft.

PANOLA COUNTY—Knott et al's Marion Durham 1, Chas. Haley sur, 6⅝ cas 2670 ft, coring 2807 ft. Smith et al's Hunt 1, Albert Johnson sur, dk. Bell et al's Burnett Lbr. Co. 1, S. B. Hendrick sur, 8⅛ cas 2027 ft, dr hd lime 2858 ft. Ark. La. P. L. Co.'s Brumble A-2, B. C. Jordan sur, 7-inch cas 4480 ft, dr anhydrites 4536 ft. Creighton & Hart's Kyle 1, J. Tippett sur, top chalk 1444 ft, top Blossom 2216 ft, dr hd lime 3490 ft. Warren & Dawes' McNeese 1, A. Booker sur, W. G. Banks' Baldwin 1, Hampton West sur, rig. Texas La. Prod. Co.'s Baker 1, B. C. Jordan sur, dr hd lime 3385 ft. Natural Gas Prod. Co.'s H. H. Alvord 1, B. C. Jordan sur, 10-inch cas 1160 ft, dr lime 2660 ft. Texas Co.'s G. W. Brumble 3, Evans Bracken sur, completed 368,000 cu. ft gas, 710 pounds r.p., td 2330 ft (did not take to Trinity).

SABINE COUNTY—Loring Oil Co.'s Nona Mills Lbr. Co. 1, Jas Mason sur, 9-inch OD cas 4150 ft, dr lime 4540 ft.

SHELBY COUNTY—C. R. Ridgeway's Parker 1, Jesse McKelvey sur, 9-inch cas 1831 ft, tested sw in sandy lime, sd 3015 ft. Chapparral Oil Co.'s Holt 2, Matthew Moore sur, sd 3300 ft.

MONTANA

CASCADE—Andover Oil Co.'s Floweree 1, se 20-21-2w, dr 1150 ft.

FERGUS—Northern State Oil Co. (Bock et al) Woodward 1, se 20-14n-24e, ur to lower 10-inch, td 1000 ft.

GLACIER — Glacier Oil Co.'s Omsberg 1, nw 33-35-5w, sd 2805 ft. Texas Prod. Co.'s 1, 13-35n-6w, sulphur water at 3010 ft. Fulton Pete Corp.'s Blackfeet 1, ne 28-36n-12w, wait for fuel, td 850 ft. Hill-O'Neil's Michales 1, se 28-36-5w, ur 10-inch 2275 ft. B. & H. Oil Co.'s Haines 1, se 2-34-6w, fsh 2550 ft. Jeffries-Hoerr, Dawson 1, ne 7-31-12w, wait for dr line 2860 ft.

GOLDEN VALLEY—Texas Pacific's 1, sw 21-8s-21e, shut off water 1540 ft.

JUDITH BASIN—Newton-Waddingham, sw 15-16n-10e, dr bel 850 ft.

LIBERTY—Northland O&G Co.'s Yurman 1, 36-33n-6e, sd 4375 ft. Sunburst, McLaren 1, se 9-37-6e, sd 3115 ft. Utopia Oil Co.'s Eleanor Ass'n 1, sw 11-33-6e, td 3190 ft. Perkins et al's Brown 1, nw 24-35-4e, spd new hole 150 ft. Western Natural Gas Co.'s 1, ne 23-37-4e, dr up lost bailer, 2065 ft.

POWDER RIVER—Creel et al, 7-8s-50e, set cas 1020 ft.

ROSEBUD—Prairie O&G Co.'s 1-X, 26-10-39e, dr in shale 1860 ft. Prairie O&G Co.'s 1, Contract 4, 28-10-38, fsh lug 1245 ft.

TETON—Andover Oil Co.'s Carlson 1, 5-24-4w, stand ready to res 150 ft.

TOOLE—Liquid Gold Oil Co.'s Roberts 1, ne 25-36-12, wait pipe 350 ft. "67" Petroleum Co., 1, nw 29-33-1e, dr 200 ft. International Roy. Hold. Co., Henry 1, sw 26-35-36, dr 2500 ft.

TEXAS GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
GRIMES COUNTY—		
D. H. Byrd & R. H. Dearing et al, Muenker 1	*	3520

AUSTIN COUNTY—O'Hara et al's Schrader 1, sd. Empire's Kunze 1, San Felipe, stuck drill stem 5187 ft. Humble's R. Hardy B-3, e edge Raccoon Bend, sn 1130 ft.

BRAZORIA COUNTY—Thos. Faust et al's Fee 6, 2 mi s Nash Dome, coring sn 5750 ft. Steel & Strickland's Lochridge 1, near Lochridge, 50 ft in sn. Rycade's Wisdom 27, Nash Dome, 4522 ft in lime. Rycade & Amerada's Seaburn 1, Stratton Ridge, shell and shale 4500 ft. Freeport Sulphur Co.'s Fee 2001, Bryan Mound, sand and lime 3990 ft. The Texas Co.'s Ewing 1, Manvel, fsh. J. H. Murdock 1, Fresno, sandy shale and lime 6590 ft. United Oil Syndicate's Speers 1, 3 mi n Danbury, 310 ft in shale.

CHAMBERS COUNTY—Pure's Lost Lake 5, fsh for core barrel 5600 ft; Mayes 12, Lost Lake, sandy shale with no show 2770 ft. Shell's Herff 2, Moss Bluff, set 2 joints of screen, ran 2½-inch tubing, swabbing sw 5804 ft. Chicago Oil Corp.'s Lawrence 1, 10 mi s of Barbers Hill, sd.

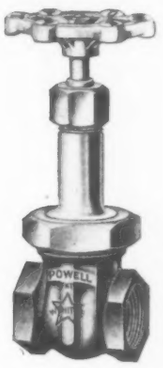
GALVESTON COUNTY—Gulf's Smith 10, High Island, 5460 ft in sn.

GRIMES COUNTY—Wainwright-West Oil, Ltd.'s Templeman 1, 6 mi s Navasota, washing to bottom 3500 ft. D. H. Byrd & R. H. Dearing et al's Muenker 1, ½ mi n Anderson, dr at 3498 ft, abn 3521 ft.

HARDIN COUNTY—D. O. Speight's Gidrey 1, 4 mi s Batson, sd 2920 ft.

HARRIS COUNTY—Humble's Simms-Smith 78, Goose Creek, pulling cas 4990 ft; Minnetex 4, Mykawa, hard sn 3725 ft. W. C. Turnbow et al's Miller 1, 3 mi s Deer Park, sandy shale 5015 ft. Mrs. J. C. Baldwin's Kittman 1, 2 mi n Cypress, sd 4247 ft. Gulf States Oil Co.'s Augsperger 1, 8 mi n Houston, gbo 3530 ft.

JACKSON COUNTY — Jackson Co. Oil Synd.'s Drushell 8, Edna, sd 3866 ft; Lee 2,



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Since 1846, when Powell Valves were first introduced to the engineering public, they have merited universal acceptance because of the universal application to all classes of service. Their vast range of design and materials command universal attention. Their application guarantees trouble-free and economical valve performance.

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Republic Supply Company

OIL AND GAS WELL SUPPLIES

Cable and Rotary Tools

GENERAL OFFICES: HOUSTON, TEXAS

Edna gas field, gas sn 4147 ft, stuck drill stem, waiting on cas. Warner-Quinlan's Hungerford 1, Henry Smith svr, dk.

JEFFERSON COUNTY — Westbury Oil Co.'s West 1, Choate sur, sticky shale 4790 ft. The Texas Co.'s Pipkin 4, Big Hill, hard sn 3640 ft. Humble's McFadden 1, 8½ mi e Big Hill, dk.

LIBERTY COUNTY—Saxet Oil Co.'s Davis 2, n Dayton, sandy shale, oil show 5205 ft. Harrison Oil Co.'s Quintette 4, salt 6070 ft. Harrison-Abercrombie's Jones 1, dr 1450 ft. Yount-Lee's Moores Bluff 3, Esperson Dome, stuck dr stem 7820 ft. Gulf's Ezzell 1, Hankamer, test 5800 ft, showed sw will deepen. Humble's Breeden 1, Moss Bluff, sn 6640 ft; Hylton 1, Moss Bluff, shell 6540 ft; Sergent 1, shale and lime 5770 ft.

MATAGORDA COUNTY—Empire's Bokar 1, Citrus Grove, stuck dr stem, will test thru dr stem if unable to pull it. Cockburn Oil Corp.'s Hawkins 2, Shepherds Mott, sn shale 5240 ft, oil show.

MONTGOMERY COUNTY—Price & Wilhite's Juergus 2, 3 mi n Conroe, sd 2950 ft. Lake Creek Oil Co.'s Hunt 1, Conroe, sd 678 ft.

ORANGE COUNTY — The Texas Co.'s Stark 2, Port Neches, will pump.

WALKER COUNTY—Joyce Richardson et al's Smither 1, 12 mi n Huntsville, sd 3455 ft.

WASHINGTON COUNTY—Clifton et al's Pruiss 1, 3 mi s Brenham, sd 1630 ft.

WHARTON COUNTY—C. S. Thomas' Taylor 1, Boling, temp abn 1585 ft; Volney 1, Boling, standing 530 ft. Givan et al's Hudgins 1, temp abn 840 ft.

LOUISIANA GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
ASSUMPTION PARISH—		
Poor Boys Drilling Co., La Barre Est. 1	*	2420

ACADIA PARISH — Yount-Lee Oil Co.'s Houssiere-Latrielle 9, Evangeline, oil and gas show, fsh 8650 ft.

ASSUMPTION PARISH—Poor Boys Drilling Co.'s LaBarre Est. 1, 47-12s-13e, abn 2420 ft.

AVOYELLES PARISH — M. L. Vincent's Morrow 1, 14-2s-4e, shale and lime 4230 ft.

CALCASIEU PARISH — Wilfred Lahay's Jardell 1, 25-10s-12w, ru. J. O. Davis' Ind. Lbr. Co. 1, Starks, oil show 6368-6380 ft. Union Sulphur Co.'s Martha Moss 1, Lockport, will test sn from 6715-1732 ft. Dr. Thomas et al's Hewitt 1, lcn. Crawford Doyle's Johnson 1, nw flank Starks, gbo 370 ft.

CAMERON PARISH—Pure's Yount-Lee 10, Sweet Lake, set 13⅜-inch cas 2900 ft. Shell's Watkins 16, Black Bayou, dk; Black Bayou State 2, Black Bayou, dr piling; Yount-Lee 5, Black Bayou, set 8-inch cas 1054 ft, short string 6⅝-inch cas 1420 ft. Vacuum Oil Co.'s Cameron Meadows 1, Cameron Meadows, sdtr 4225 ft. The Texas Co.'s Calcasieu Lake State A-6, salt 2840 ft, top 2399 ft; State East Hackberry 7, lcn. F. R. E. Tr.'s, John Vincent 1 Hackberry, fsh 1990 ft.

IBERIA PARISH — The Texas Co.'s Vermilion Bay 6, dr piling.

IBERVILLE PARISH—Standard's Wilbert 8, Bayou de Blaise, fsh 3645 ft; Wilbert 7, Bayou Blue, dk fdn; L. Baist Cooperage Co. 1, Bayou Blue, dk fdn; Schwing 1, gbo 4670 ft. Shell's Wilbert 5, White Castle, shale and lime 5040 ft. Gulf's Gay 1, Bayou Choctau, rk 1830 ft. Texas Gulf Sulphur Co.'s Wilbert 5, Bayou Choctau, abn 690 ft; Wilbert 6, lcn; Wilbert 7, ru.

PLAQUEMINES PARISH—Humble's Cockrell-Moran 2, Lake Grande Ecaille, sn shale 2425 ft. Garden Island Bay State 4, waiting on cas.

ST. JAMES PARISH — Convent Oil Co.'s Jacobs 1, 28-11s-4e, prep to rebuild dk.

ST. MARTIN PARISH—The Texas Co.'s Iberville Ind. Co. 3, Hager Dome, dk. St. Martin Land Co. 5, Hager Dome, mixing mud 50 ft. Rycade's Woodyard Lake 1, Bayou Bouillon, sdtr 3855 ft. State 4, Bayou Bouillon, pulling dr stem.

ST. TAMMANY PARISH—Washington & St. Tammany Drlg. Co.'s Coussack 2, 5-6s-10e, resetting surface cas.

TERREBONNE PARISH — Chas. Paggi's Evergreen 2, Houma, sd. La. Gas & Fuel Co.'s Minor Estate 1, Houma, shale and lime 2790 ft. The Texas Co.'s Bay Junop 2, making up 4-inch dr stem; Dog Lake A-3, repairing boiler; Callou Island State 4, lcn; Callou State 5, salt 4775 ft; Lake Pelton State 4, dk; No. 5, lcn; No. 6, ru. Bay St. Elaine 1, wor; No. 5, lime 960 ft; No. 6, lcn; Lake Barre 6, lcn; No. 7, wor; Four Isle 4, washing at 6735 ft.

NORTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
BIENVILLE PARISH—		
Olds & Smith, Brice 1, 15-18-6w	*	2230
Triangle Drilling Co. et al, McDermott 1, 28-18-6w	*	3160
BOSSIER PARISH—		
Louisiana OR Corp., Bodcaw B-14, 11-19-11	*	2503
CADDO PARISH—		
Hunter Land Inv. Co., Fee 1, 32-18-14	¶5	934
SABINE PARISH—		
Pelican Nat. Gas Co., Sabine Lbr. Co. 6, 11-7-12	2016	2343

BIENVILLE PARISH — Triangle Drilling Co. et al's McDermott 1, 28-18-6w, 6⅝ cas 2174 ft, whipstock sd at 2060 ft, dry and abn at 2176 ft, old td 3160 ft. S. P. Borden et al's Thomas 1, 27-16-9w, 7-inch cas 4033 ft, dr 4350 ft. Carter & Dobbs White 1, 9-18-6w, sd for fuel 2262 ft. Olds & Smith's Brice 1, 15-18-6w, top Cane River 530 ft, 6⅝ cas 2156 ft, dy abn, td 2230 ft. Cagle Bros.' Lawhon 1, 15-16-8w, 10-inch cas 108 ft, dr 710 ft.

BOSSIER PARISH—Andrews & Davlin's Nattin 1, 15-22-14, 8-inch cas 1471 ft, sd 1576 ft. H. I. Morgan et al's Kendricks B-11, ne nw 22-19-11, cored oolitic lime 1784-96 ft, arr ds test. La. O. R. Corp.'s Bodcaw B-14, se sw 11-19-11, dry abn, td 2503 ft. Rambaugh et al's Allison 1, 10-19-13, coring 1055 ft.

CADDO PARISH—Texas La. P. L. Co.'s Wall 1, 33-23-16, dr hd lime 4385 ft; French 1, sw nw 34-23-16, dr hd lime 4774 ft. Hunter Land Inv. Co.'s Fee 1, 32-18-14, 5 mil ft gas 200 pounds rp, td 934 ft. Junior O&G Co.'s Breard 1, 9-18-16, rig up. Gooch et al's Foster 1, 29-15-16, rig up.

CATAHOULA PARISH—National Drilling Co.'s Marsh McMillian 1, 26-9-6e, cemt 6⅝ cas 2796 ft, td 2850 ft.

CLAIBORNE PARISH—Triangle Drilling Co.'s Brownfield 1, nw ne 6-19-5w, 9-inch cas 4034 ft, blg to test in oolitic lime, td 4382 ft. Baird Bros. et al's Whittaker 1, 30-20-7w, sd 2200 ft. Bough et al's Alexandria 1, 27-20-8w, sd 2200 ft. Prairie O&G Co.'s F. B. Shackelford 1, se ne 30-23-5w, 12½ cas 611 ft, top Blossom 2729 ft, dr 2865 ft. La. O. R. Corp.'s Langston 10, 19-21-7w, dr 1470 ft. ...

CALDWELL PARISH—Hudson et al's Burton 1, 36-12-2e, dr hd rock 2437 ft.

CONCORDIA PARISH — Louisiana G&F Co.'s Saunders 2, 42-8n-10e, rig. Joe Marr et al's Maxwell 1, 35-3-8e, 8-inch cas 2000 ft, sd 3600 ft.

DE SOTO PARISH—J. W. Clark's Tidwell 1, 22-13-14, 6⅝ cas 2910 ft, dry, show oil, sd 3084 ft. W. H. Weichert's H. Smith 1, 31-14-15, top gas sand 1653 ft, did not set cas to test gas show, coring 1757 ft. Standard Oil Co. of La.'s Dowling Bros. B-1, sw sw 32-14-13, 6⅝ cas 2813 ft, bro sand, blew out, est 30 mil ft gas spray of oil, arr lubricate and deepen, td 2829 ft; Hoell 1, 32-14-13, dk. Neff et al's Dowling 1, se se 18-13-14, 10-inch 42 ft, dr 500 ft; Ramsey 1, 33-13-16, dk. S. A. Guy et al's Dowling Bros. 1, 31-14-14, sd 1354 ft. J. M. Bridges, Tr.'s, Cook 1, sw ne 16-10-11, sp 10-inch 103 ft, dr 2800 ft.

LA SALLE PARISH—La. G&F Co.'s Tensas Delta B-2, sw ne 23-7-4e, rig.

NATCHITOCHES PARISH — Gulf Ref. Co.'s Bodcaw Lbr. Co. 1, sw ne 13-13-8w, setting 12½-inch cas 930 ft, td 934 ft. W. M. Coates et al's Collins 1, 28-9-10, base chalk 2612 ft, sd 3718 ft. J. W. Cooper et al's Cooper 1, 35-11-10, dr hd chalk 1780 ft; Cooper 2-A, 35-11-10, changing to heavy rig, td 1150 ft.

RED RIVER PARISH—Lucky Strike Oil Co.'s Chaffraix 1, 33-12-10, sd 3010 ft. T. G. Shaw's Wilkinson 1, se se 4-12-10w, 6-inch cas 2240 ft, 700 ft oil in hole, did not deepen, setting 2-inch tub top pckr, td 2838 ft.

RICHLAND PARISH—W. C. Feazel's Landrum 1, 6-16-7e, dk. Island O&G Co.'s Noe 1, 3-16-5e, 6-inch cas 2350 ft, top Monroe gas rock 2365 ft, sd in shale 2630 ft.

SABINE PARISH—McDaniels et al's Batson 2, 16-8-12, 6⅝ cas 2190 ft, bailed dry, sd 2553 ft. Lacey Jessup Oil Co.'s Brown Lbr. Co. 1, se ne 28-8-10, coring 2245 ft. Lacey Prod. Co.'s W. M. Cooper 1, 30-8-11, top Zwolle chalk 2306 ft, 6⅝ cas 2270 ft, bailed dry 2370 ft, bailing 2560 ft; Cooper 2, nw sw 32-8-11, junked old hole at 900 ft, skidded over, sp new hole, dr 1915 ft. A. H. Teat's Craig 1, ne ne 25-8-12, top marl 2329 ft, 6⅝ cas 2329 ft, dry, arr abn, td 2615 ft. Eylers O&G Co.'s Fraser 1, nw sw 10-8-11, elev 317 ft, top Zwolle marl 2160 ft, 8¼-inch cas 2150 ft, blg to test, td 2285 ft. R. L. Gay, Tr.'s, Bowman-Hicks 9, ne sw 18-7-13, 6⅝ cas 2187 ft, dr 2620 ft; Sabine Lbr. Co. A-1, se ne 1-7-12, dr 1963 ft. D. H. Reddick et al's Scretchfield 1, 18-9-12, sd 3310 ft. Paramount O&G Co.'s Woolums 1, 11-6-12, 6-inch 2310 ft, top Zwolle chalk 2776 ft, sd 2782 ft. Zeke Lohman's Wyatt Lbr. Co. 1, 18-4-11, lcn abn. Pelican Nat. Gas Co.'s La. Long Leaf 6, nw sw 4-7-11, 6-inch 2291 ft, 2000 ft oil in hole, fsh bailer, td 2357 ft. La. Long 7, nw sw 10-7-11, dk; Sabine Lbr. Co. 6, 11-7-12, top Zwolle marl 2311 ft, 6-inch cas 2309 ft, gauged 2016 bbls oil day thru 7/16-inch choke, td 2343 ft; Sabine Lbr. Co. 7, 11-7-12, lcn. P&G Oil Co.'s Williams 1, 21-7-12, dk. T. G. Shaw's Sabine 1, 1-7-12, dk. Esso Pet. Co.'s La. Long Leaf 1, 35-8-11, sp 10-inch cas 107 ft. Lyons & Neely's Cooper 1, 32-8-11, dk. Southland Oil Corp.'s Carter 1, 36-8-12, rig. Philp et al's Turner 1, nw nw 4-7-11, lcn. Texas Co.'s Stokes 1, nw se 10-7-11, sp 10-inch 104 ft, dr 175 ft. Longoria et al's Belton 1, 31-9-12, rig. Franks et al's Hays 1, 22-8-11, sd 1325 ft. Towery Drilling Co.'s (formerly David M. Lide) Sabine 1, 12-7-12, sp 10-in 44 ft, dr 1130 ft; Ponder 1, 15-7-11, top Marl 2393 ft, top chalk 2407 ft, 6-inch 2385 ft, sd 2800 ft. W. M. Coates' Sabine 1, 1-7-12, 6⅝ cas 2185 ft, tested dry 2205 ft, dr 2393 ft. Wilson & Sons' Gandy-Garrett 1, 4-5-12, dr 1920 ft. Toteco Oil Co.'s La. Long Leaf 1, 18-6-12, 6⅝ cas 3965 ft, tested 100,000 ft gas show sw thru ds with 8 ft sand 4245 ft, dr 4293 ft. Tom David's Smith 1, 27-8-10, sd 2150 ft. Merritt et al's La. Long Leaf 1, 33-8-11, 6-inch 2294 ft, td 2301 ft. Tarver et al's Baker 1, nw ne 36-8-12, dr 1750 ft. C. W. Robinson's Trammell 1, ne ne 5-7-11, sp 10-inch 80 ft, dr 1050 ft. Jno. Woodley's Sabine 1, ne se 12-8-12, lcn. H. W. Perritt's Bowman-Hicks 1, 2-7-12, 6-inch cas 2230 ft. making est 3 mil ft gas spray oil at 2285 ft, arr deepen. R. B. Whittle's Sabine Lbr. Co. 1, sw sw 36-8-12, 10-inch 150 ft, dr 1072 ft. Diffie & Barrett's (formerly J. W. Clark), Lites 1, se nw 34-8-11, 10-inch cas 105 ft. Frank Melat's Sabine 1, ne sw 6-7-11, reported dr in error, rig. Sabine 2, ne nw 14-7-12, sp 10-inch cas 100 ft.

TENSAS PARISH—Seip et al's Fowler 1, 10-10-10e, sd 905 ft. A. R. Willis' Curry 1, 39-11-12, sd 2730 ft.

WEBSTER PARISH—Gehrig Co.'s Miller 1, ne sw 16-18-10, 12½ cas 200 ft, dr 500 ft. D. H. Coyle's Frazier 1, ne se 27-23-11, dk. Cassidy & Davis' Nickerson 1, ne sw 29-23-10, dk.

MISSISSIPPI

Company, Well and Location	Initial Production Bbls.	Depth
HINDS COUNTY, (Jackson Dist.)—		
Love Pet. Co., Morton Lbr. Co. 1, 34-6-1e	¶30	2393
Miss. Pet. Co., Baptist Orphanage 1, 28-6-1e	¶40	2486
RANKIN COUNTY, (Jackson Dist.)—		
Wallace O&G Co., Cobb 1, 12-5-1e	¶48	2380

ALCORN COUNTY—Alcorn Pet. Co., Matthews 1, se se 14-2s-7e, fsh intermittently td 2735 ft.

ATTALA COUNTY—Ark. La. P. L. Co.'s Moore 1, se nw 2-15n-5e, elev 271 ft top Selma chalk 2277 ft, base Selma chalk 3028 ft, dr shale and sandstone 3051 ft.

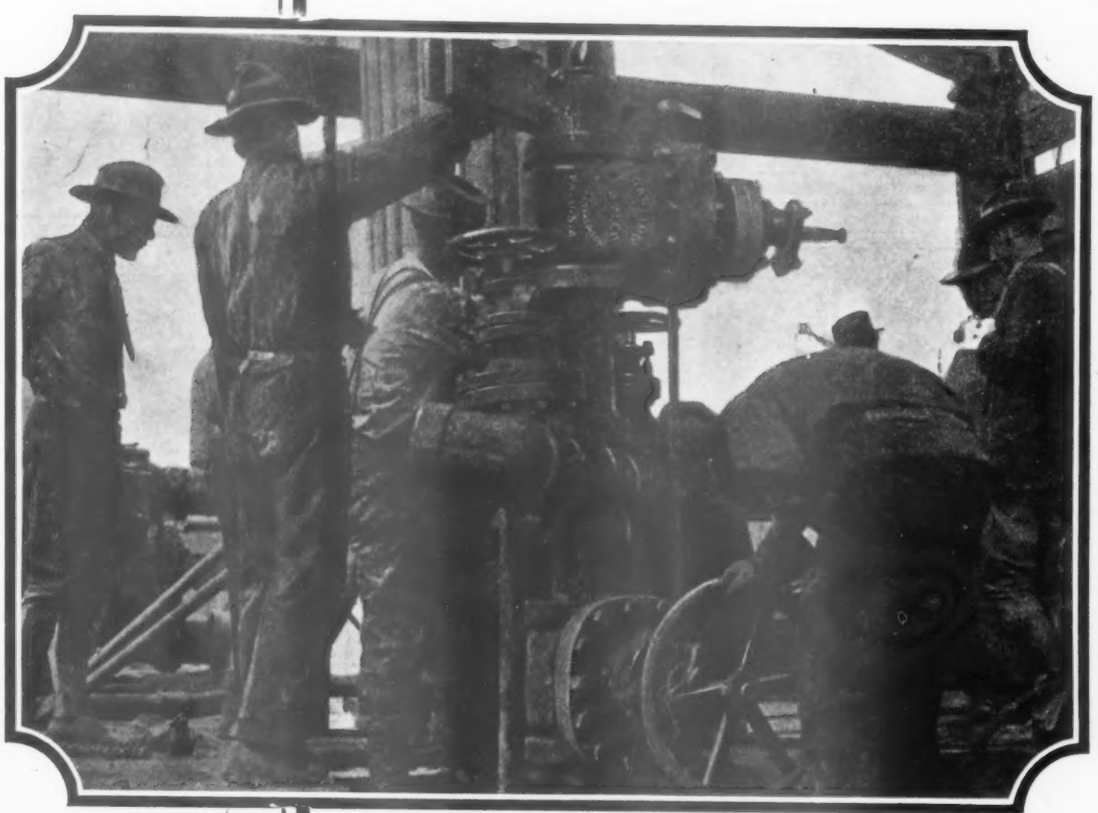
CLAY COUNTY—Ohio Oil Co.'s Cantrell 1, ne ne 16-15-5e, elev 270 ft, 13⅜ cas 1389 ft, dr hard sandy lime 2430 ft.

COVINGTON COUNTY, (Collins Dist.)—Miss. Gulf O&G Co.'s Pope 1, nw ne 35-8n-16w, materials.

CHICKASAW COUNTY—Hightower & Golson's Fleming 1, 30-13-3, driving 8¼-in pipe 1562 ft.

GRENADA COUNTY—Carter Oil Co.'s Dubard 1, nw nw 18-22-4e, rebldg dk blown down by storm.

HINDS COUNTY, (Jackson Dist.) — Mrs.



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Ella Rawls Reeder's State Land 1, sw nw 25-6-1e, sd 2905 ft. Jackson O&G Co.'s Central Cotton 1, sw nw 3-5-1e, dk. Love Pet. Co.'s Morton 1, sw sw 34-6-1e, set 6⅝ cas 2390 ft, est 30 mil ft gas td 2393 ft. Maley 1, se nw 15-5-1e, elev 257.3 ft, top Midway shale 2387 ft, top Midway chalk 2437 ft 6⅝ cas 2487 ft, making gas flow 10,000 bbls sw 100-200 bbls badly cut oil td 2495 ft. Miss. Tex. Oil Co.'s Negro Fair Assn. 1, nw se 28-6-1e, top Midway shale 2420 ft, 6-in cas 2379 ft, sd 2479 ft. Southern Pet. Co.'s Wilson 1, se ne 23-6-1e, dk. Miss. Pet. Co.'s Solvent 1, sw sw 14-5-1w, cor 2900 ft still in Wilcox. Baptist Orphanage 1, se se 28-6-1e, elev 318 ft 6⅝ cas 2481 ft, top Midway shale 2422 ft, top Midway chalk 2481 ft, est 40 mil ft gas td 2486 ft, (corrected depth). Howard Oil Co.'s Jackson College 1, nw nw 9-5-1e, rig. Atkisson et al's Wiggins 1, nw ne 23-6-1e, sp 12½ cas 74 ft, dr 400 ft. Downey 1, 27-6-1e, lcn. Kennedy et al's Fee 1, ne ne 34-6-1e, lcn. Gulf Ref. Co.'s McLaurin 1, sw ne 30-6-2e, wo cas to harden set 9-in at 2466 ft in Midway shale. Cane River O&G Co.'s Kabbes 1, ne sw 15-5-1e, elev 262 ft top Midway shale 2435 ft, top Midway chalk 2541 ft, 7-in cas 2541 ft, coring red beds 2890 ft. Love et al's Ridgeway & McGehee 2, 2-5-1e, rig. Iowa Gas Co.'s Payne 1, 15-5-1e, lcn.

JASPER COUNTY, (Bay Springs Dist.)—Bay Springs Pet. Inc., J. H. Keyes 1, nw ne 21-2n-10e, rig.

KEMPER COUNTY, (De Kalb Dist.)—W. W. Jones' Rosembaum 1, lcn not given, dk.

LA FAYETTE COUNTY—F. E. West et al's May 1, 22-10-1w, rig up wo.

MADISON COUNTY (Jackson Dist.)—Miss. Pet. Co.'s Raymond 1, nw sw 32-7-2e, 12½-inch cas 706 ft, sd 706 ft.

MONROE COUNTY, (Amory Dist.)—Amory Dev. Co.'s Bourland 1, 2-13-19, sd in brown sand 3007 ft. P. J. McAlpine's Cowart 1, ne sw 2-12-19, 10-in 694 ft, dr white sand 735 ft. Associated Royalties' School Board 1, sw sw 16-15-17, sd 60 ft. Amory Pet. Corp.'s Harris 1, nw nw 18-13s-17w, dk. Carter 3, se se 7-13s-17w, 10-in 564 ft, dr sandy lime 1935 ft.

NESHOBA COUNTY, (Philadelphia Dist.)—Williams et al's Dees 1, se se 29-11n-12e, bldg dk.

RANKIN COUNTY, (Jackson Dist.)—Feazel O&G Co.'s Cox 1, 12-5-1e, dk. Sabine O&G Co.'s Rankin Dev. Co.'s 1, sw ne 6-5-2e, elev 273 ft, sd no cas set in sandy shale 2320 ft. Gulf Ref. Co.'s Hamilton Est. 1, sw sw 4-5-2e, elev 284 ft, top Midway shale 2537 ft, top Midway chalk 2620 ft, 9-in cas 2610 ft, top red beds 3059 ft, lubricating to free frozen ds td 3105 ft. Love et al's Muse 1, se se 32-7-4e, rig. Wallace O&G Co.'s Cobb 1, se ne 12-5-1e, elev 269.6 ft, top Midway shale 2290 ft, 6⅝ cas 2375 ft, top Midway chalk 2375 ft, gauged 48,552,340 cu ft gas td 2380 ft. Southern Pet. Co.'s Ivy 1, 12-5-1e, elev 270 ft, dr shale 1358 ft. Love Pet. Co.'s Moore 1, se nw 28-6-2e, sd 900 ft. Millstein O&G Co.'s Gammill-Hartfield 1, sw se 6-5-2e, dr shale 1420 ft.

WARREN COUNTY, (Vicksburg Dist.)—Dixie Pet. Co.'s Clark 1, sw sw 31-17n-5e, dk. Vicksburg O&G Co.'s Dornbusch 1, 8-18n-5e, sd 1600 ft.

WEBSTER COUNTY—Cumberland Oil Co.'s Henley 1, 15-21-11, ta 1865 tf.

WINSTON COUNTY, (Louisville Dist.)—Miss. Drilling Co.'s Scarbrough 1, nw nw 15-13n-14e, dr Selma chalk 1605 ft, (corrected depth).

YALABOUSHA COUNTY (Water Valley Dist.)—J. D. Collett et al's Blackmer 1, sw ne 14-11s-4w, junked old hole at 2434 ft, skidding over 45 ft south for new hole.

WYOMING

BIG HORN—Westland Oil, Inc., 24-54-95, gas at 510 ft. Wisconsin Holdings, 5-55-97, sd 665 ft. Yellowstone Pete Co.'s 1, 7-57-97, td 4080 ft.

CARBON—Producers O&G Co.'s Blivens 1, 32-12-92, 5M at 700 ft. Midwest's U. P. 27, 11-20-81, run 13-inch at 1275 ft. Petroleum Exploration Co. of Calif., 29-23-89, show oil and gas at 800 ft.

CONVERSE—Converse O&G Co., 27-33-72, sd 2000 ft. Pioneer Oil Co., 5-31-70, to dr new test.

FREMONT—Texas Prod. Co.'s State 1, 36-44-96, sdtr 304 ft, 6⅝-inch cas in hole, td 445

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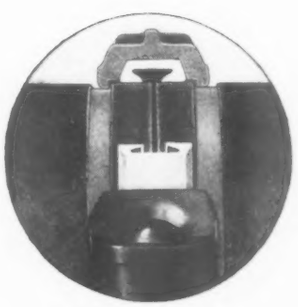

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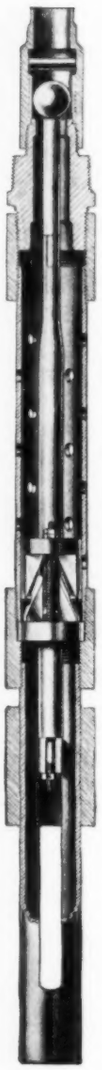

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NATRONA—Summit Oil Co., 21-33n-80w, dr 1000 ft. Midwest's 11, nw 32-34n-77w, dr 4200 ft. Cuyler Oil Co., 23-36n-85w, rig.

NIOBRARA—West Virginia Synd., ne 7-35-62, td 987 ft, cas trouble.

PARK—Resolute Oil Co., 17-27-101, hun cas 8250 ft, 1000 ft oil in hole.

SWEETWATER—Vermillion Oil Co.'s 1, se 16-12-99, dr bel 3200 ft, carry 8⅝-inch.

UINTA—Park City O&G Co., nw 6-15-113, set 6¼-in at 2150 ft, prep to res.

COLORADO

ADAMS—N. M. Slatt's Hills 1, se 27-26-64w, 10-inch at 2500 ft.

ARAPAHOE—McDebb Drlg. Co.'s Fitzsimmons 1, 7-45-55, ready to dr ahead 5692 ft. Merrett et al's U. P. 1, nw 17-5s-64w, stand 1600 ft, hfw.

ARCHULETA—Stand of Colo., Fitzhugh 1, se 32-33n-1e, stand 502 ft.

BACA—A. R. Jones Oil & Optg. Co.'s Boice Cattle 1, 22-34s-42w, dr 4100 ft.

ELBERT—Belmont Oil Co.'s Maher 1, se 4-6s-59w, prep to res 3720 ft.

EL PASO—Utemore Synd., Cannom 1, ne 10-16s-66w, stand 1100 ft.

JEFFERSON—Ruby Hill O&G Co.'s Braden 1, se 24-4s-59w, dr 3813 ft.

LARIMER—Smith et al's State 2, ne 36-12-70w, dr 360 ft.

LA PLATA—McGarr Pete Co.'s Mesa 1, ne 27-33n-12, test show 3310 ft. McGarr Pete Co.'s Pinon Mesa 1, ne 34-33n-12, prep to spud. Klem Pete Corp.'s Olbert 1, se 9-25n-12w, dr 2800 ft. Murchison Oil Co.'s Doescher 1, ne 9-33n-13w, sd 1225 ft for winter.

LINCOLN—Kelly Oil Co.'s State 1, 26-14n-57w, stand 3415 ft.

MOFFAT—Vermillion O&G Synd.'s 1, se 23-9n-100w, stand 750 ft. Mtn. Fuel Supply's State 2, tract 37-12-100, sd.

MONTEZUMA—Haller et al's Haller 3, ne 33-36n-14w, dr 900 ft.

MORGAN—Ind. Terr. Illum. Oil Co.'s State 1, ne 16-1n-7w, dr 3710 ft.

PUEBLO—No. American O&L Co.'s Boescher 1, 7-22-66, prep to dd from 1005 ft. Anchor Oil Co.'s Easley 1, sw 35-22s-67w, dr 384 ft.

PARK—So. Park Oil Co.'s Milligan 1, se 13-9s-76w, show gas 1600 ft. So. Park O&G Co.'s Esche, ne 5-9s-76w, 10-inch at 605 ft.

ROUTT—Gorham et al's Omholt 1, 29-4n-87w, dr 206 ft.

WELD—Platte Valley Pete Corp.'s Patterson 1, nw 24-6n-61w, prep to dd from 6667 ft. Eastman Oil Co.'s Steel 1, ne 14-2n-67w, sd 165 ft.

WASHINGTON—Middlemist Oil Co.'s Middlemist 1, se 14-4w-56w, carry 12¾-inch, td 1672 ft.

NEW MEXICO

DE BACA—Matador Oil Co.'s Wood 1, se 6-4n-20e, repairs at 3005 ft.

LUNA—Angelus Oil Mining Assn.'s 1, se 20-21s-10w, dr 5915 ft.

McKINLEY—J. W. Halsell's Stanta Fe 1, 17-18-9w, sd 3255 ft. Wms. et al's A. T. S. F. 1, se 19-18n-8w, dr 1900 ft.

OTERO—Ernest et al's 1, se 20-25s-7e, dr 1328 ft.

QUAY—Silverstein et al's Wetzel 1, 29-12n-33e, stand 175 ft.

RIO ARRIBA—Berringer et al's Hartman 1, ne 8-29n-7w, sd 825 ft. San Juan Pete Co.'s Gov't 1, se 14-30n-7w, sd 250 ft. Governador Oil Co.'s 1, se 15-29n-7w, dr 751 ft.

SAN JUAN—Dorothy Oil Co.'s Terwilliger 2, 29-30-9w, prep to res 1750 ft. Kutz Canon O&G Co.'s Day 1, se 20-28n-10w, repairs 2018 ft. Childers Drlg. & Pr. Co.'s Westwater 2, nw 23-31-16w, sd 2525 ft. Rio Grande Dev. Co.'s Lanier 2, 9-29-11w, stand 1380 ft. Continental Oil Co.'s Rattlesnake 24, 1-29n-19w, cem 4¾-inch at 4645 ft. Murchison Oil Co.'s Angels Peak 4, se 11-28-11, gassing 1861 ft. J. H. Witt O&G Co.'s Mangum 1, se 33-29n-11w, mvg in.

SAN MIGUEL—Pioneer O&G Co.'s Thunderbird 1, nw 14-15n-16e, wait 2355 ft. Starr Oil Co.'s Adams 1, ne 25-17n-16e, dr 3375 ft. Cibola Pete Co.'s Crown 1, se 9-13n-14e, dr

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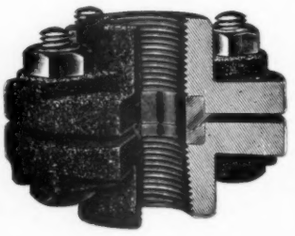


762 ft. Hershfield Dev. Co.'s Cabra Springs 1, ne 12-12n-22e, dr 1500 ft.

TORRANCE—Williams et al's Staplin 1, ne 16-8n-10e, stnd 1643 ft. J. B. Witt O&G Co.'s Kutchem 1, 12-17s-7e, wtg repairs 1320 ft.

VALENCIA—Acme Oil Co.'s N. M.-Ariz. Land Co.'s 1, 26-6-3, dr 4825 ft. Harlan et al's Harlan 1-A, 5-6n-2e, hole lost at 4025 ft, rig skidded to new test.

ALABAMA

HOUSTON COUNTY—J. R. Sealey's Fee 1, 13-1n-27e, changing from cable tools to rotary td 3100 ft.

MORGAN COUNTY—Albany-Decatur O&G Co.'s English 1, 6-6-4, fsh cas 4130 ft.

SUMTER COUNTY—B. W. Bates' Fee 1, 3-18-1w, ta 1200 ft. Fee 2, 3-18-1w, rig up wo.

WASHINGTON COUNTY—Hobson et al's Wilson 1, 27-7-1w, sd in limey shale 881 ft. Hobson Bros. 1, 9-8-2w, sd 1450 ft. Oscar Brown's U. S. Land & Cotton 2, 25-3-2w, 700 ft.

TENNESSEE

DECATUR COUNTY—Chester County O&G Co.'s Montgomery 1, dr hard lime 2025 ft, (no recent report).

ARKANSAS

Company, Well and Location	Initial Production Bbls.	Depth
SEBASTIAN COUNTY—		
Lavaca O&G Co., Davis 1, 27-8-30	¶1½	2885

CHICOT COUNTY—H. R. Smith's Lytle 1, 31-18-3, sdtr junk at 2900 ft, td 2925 ft.

CLAY COUNTY—S. C. Jeffus, Tr.'s, Underwood 1, nw se 4-20-8, 10-inch cas 303 ft, sd 330 ft.

CLEBURNE COUNTY—Donnell et al's Fee 1, 33-11-9, ur 6-in cas at 2300 ft, td 3740 ft.

COLUMBIA COUNTY—J. W. Olvey et al's Kate George 1, nw sw 19-18-20, dr 3460 ft.

DALLAS COUNTY — John James, Tr.'s, Fordyce Lbr. Co. 1, nw ne nw 11-9s-15w, dk pat.

GARLAND COUNTY—H. H. Given's Garrett 1, 1-3n-19w, 5 3/16-inch cas set on bottom at 3756 ft, hole full sw, pulling cas.

FRANKLIN COUNTY—Red Bank Oil Co.'s Hamm 1, 33-10-26w, plugging back to 3050 ft, td 3750 ft.

HOT SPRINGS COUNTY—John Watkins, Tr.'s, Cunningham 1, 11-5-16, sd 100 ft. Cleary Bros. et al's Hinson 1, 19-4s-16w, arr set 5 3/16 cas to test 11 ft sand, td 1604 ft.

JOHNSON COUNTY—Ark. La. P. L. Co.'s Kelly 1, sw se 14-10-24, sd repr rig 2910 ft; Hudson 1, se se 14-10-24, dr 1575 ft. Blackwell O&G Co.'s Wyver 1, 21-8-23, sd 5600 ft. River Valley Dev. Co.'s Collier 1, se se 21-9n-25w, dr 860 ft.

LA FAYETTE COUNTY—Crawford Drilling Co.'s Vaughan 1, 25-19-25, rig up. McIver et al's Hattle 1, nw ne 1-20-26, sd 20 ft.

LAWRENCE COUNTY—Marguerite Dev. Co.'s Broadway 1, 31-17-1, sd 45 ft.

LITTLE RIVER COUNTY—Buck Oil Co.'s Taafe 1, 25-12-32, sd 2505 ft.

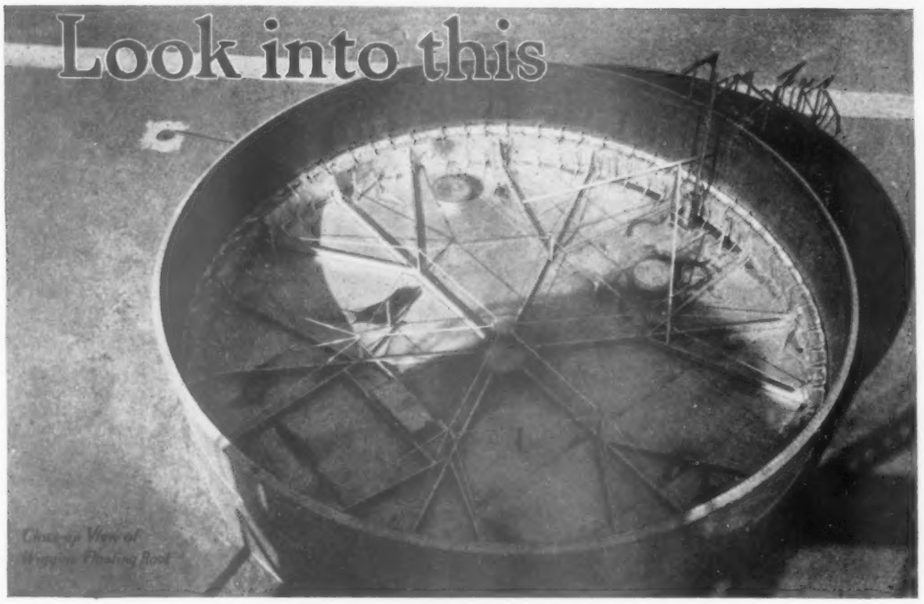
LOGAN COUNTY—Ark. La. P. L. Co.'s Jno. Jansen 1, ne ne 35-8-24, set 13⅜ cas 343 ft, dr 1050 ft. M. W. Greesom's Parks 1, 21-8-24, sd 1309 ft. J. H. Flowers' White 1, 13-5-26, ur 5 3/16-inch cas 3570 ft, td 3610 ft.

MADISON COUNTY—J. W. Baxter's Hallem 2, cent sec 17-16-26, sd 405 ft; Hallem 3, ne sw 1-17-26, dr 37 ft.

MILLER COUNTY—E. & F. Oil Co.'s E. L. Beck 1, 36-15-26, 6⅝ cas 3792 ft, sdtr short string 4½ cas 4 ft sand, td 2951 ft. Lenz et al's Johnson 2, 24-15-26, cor at estimated depth of 3550 ft; Johnson 3, ne nw 24-16-26, dr 2750 ft. Bullock Oil Co.'s Hervey 1, 2-15-26, fsh slip, td 2370 ft. East Texas O&G Co.'s Hervey 1, 2-15-26, sd wo 8-inch cas 900 ft. O'Mara et al's Person 1, 31-15-25, lcn. Fitzwater et al's Beck 1, sw se 33-15-26, 10-inch cas 85 ft, sd. Salzer & McRae's Rose 1, ne nw 9-16-26, 10-inch cas 98 ft, sd for fuel 475 ft.

OUACHITA COUNTY — Belmont et al's Dean 1, 16-15-17, top red beds 2765 ft, sd with junk in hole, td 2907 ft. A. B. Turner, Tr.'s, Brown 1, 23-15-18, cemtd 6⅝ cas 2164 ft, 14 ft sand, td 2178 ft. Graves et al's Walker, Tr. 1, sw sw 9-14-18, top Nacatosh 1352 ft, 6⅝ cas 1845 ft, hole cleaned, arr deepen, td 1873 ft. Copenhaver et al's Elliott 1, se se 11-15-17, ds recovered, coring 2000 ft.

PIKE COUNTY—Henderson et al's Tilyou



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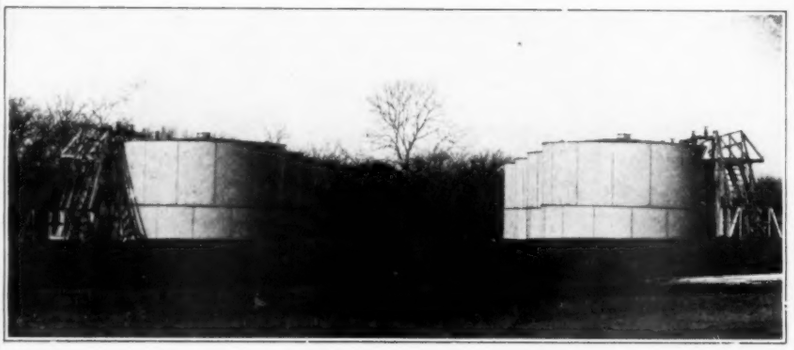

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1, 26-8-24, show heavy oil 567 ft, dr 1850 ft. E. R. Henderson's Lee 1, sw se 31-8s-24w, dk.

POPE COUNTY—Ark. La. P. L. Co.'s McFadden & Brooks 2, ne nw 15-9-21, 13⅜ cas 1900 ft, dr sand 2575 ft.

SCOTT COUNTY — Heavener O&G Co.'s Reser 1, 36-4-26, sdtr tools at 1436 ft, td 1536 ft. Ark. Valley Gas Co.'s Turner 1, se se 27-5n-30w, lcn.

SEBASTIAN COUNTY—M. W. Greesom's Spears 1, 9-7-29w, tested sw, sd 3515 ft. Lavaca O&G Co.'s Davis 1, nw ne 27-8-30, 8-inch cas 200 ft, 1½ mil ft gas, rock pressure 260 pounds, td 2885 ft; L. Wright 1, 29-8-30, dr 1109 ft.

UNION COUNTY—Hickman et al's Hogg 1, 35-16-17, top Graves sand 2351 ft, sd 2750 ft. Marine Oil Co.'s W. B. Thompson A-5, sw ne 10-18-13, tested 15 joints oil in 6 min thru ds 3525-30 ft, cemtd 6⅝ cas 3525 ft, td 3530 ft. Oilfields Corp.'s J. A. Simmons 1, nw nw 13-18-13, ta 3602 ft. Rice et al's Whatley 1, 7-17-15, sd 1520 ft. J. E. Crosbie, Inc. et al's G. L. Murphy 1, sw nw 13-16-16, coring white sand 3162 ft. H. L. Hunt, Inc.'s, Swilley 5, ne ne 28-16-16, 6⅝ cas 2678 ft, 2000 ft oil in hole, trace sw, wosr 2689 ft; Swilley 6, se se 21-16-16, cemtd 6⅝ cas 2700 ft, td 2711 ft.

WASHINGTON COUNTY—Taylor et al's Runny 1, 1-13-29, dr 1650 ft. Lincoln Lease Holding Synd.'s Townsite 1, 30-15-32, ta 1500 ft. C. H. Willoughby's Jones 1, 34-16-30, sd 2150 ft. O'Hara & Shetterley's Boyd 1, 12-16-32, ta 850 ft. Delbert Graves' Cunningham 1, 14-15-32, sd in gray sand 602 ft.

VAN BUREN COUNTY — J. S. Martin's Scanland 1, 5-9-13, sd 50 ft.

YELL COUNTY—T. Luckett's Balcon 1, 36-7-21, sd while fsh tools, td 5710 ft.

OKLAHOMA

WOODS COUNTY—T 27n, R 16w, Sec. 33, Sinclair, Share 1, c ne sw, hfw 7160-7280 ft td pb shot 100 qts 5080-5100 ft, 3500 ft water in hole, pb to 4885 ft, shot 100 qts 4827-77ft d&a.

ALFALFA COUNTY—T 27n, R 11w, Sec. 12, Smith Bros., Forbes 1, ne c se nw nw, sd 1420 ft.

KAY COUNTY—T 27n, R 2e, Sec. 9, Mumner et al, Sornick 1, nw c se, dr 460 ft. T 27n, R 2e, Sec. 17, Blankenship et al, Hansen 1, sw nw sw, shot 10-20-40 qts 3587-97 ft comp. for 30 bbls pumped.

GRANT COUNTY—T 26n, R 5w, Sec. 25, Bu-Vi-Bar et al, Hurst 1, c sw, show oil and water 5215-18 ft td 5877 ft hfw d&a.

KAY COUNTY — T 26n, R 1w, Sec. 32, Boucher et al, Jefferson 1, ne c sw, sd 1175 ft.

HARPER COUNTY—T 25n, R 20w, Sec. 12, Empire, Burce 1, sw c ne ne sw, slight show oil 7161-73 ft dr 7317 ft.

GRANT COUNTY—T 25n, R 4w, Sec. 22, Cowden, Vollmer 2, ne c se ne sw, lost tools sd 5640.

ALFALFA COUNTY—T 24n, R 11w, Sec. 14, J. V. Bailey et al, Acre 1, c sw ne, dr 4690 ft.

GARFIELD COUNTY—T 24n, R 6w, Sec. 9, Pulse & Beamer, White 1, se c nw, sd 5825 ft.

NOBLE COUNTY—T 21n, R 1e, Sec. 12, Barnsdall et al, Minks 1, nw c sw, dr 3080 ft hfw 3050-55.

BLAINE COUNTY—T 19n, R 10w, Sec. 13, Washoma Pet. Co., Phillips 1, c nw sw, dr 4300.

LOGAN COUNTY—T 18n, R 3w, Sec. 33, Healey & Consolidated Dr. Co., Quier 1, se c sw, sd 3970. T 17n, R 4w, Sec. 34, Eason Oil Co., Katchor 1, sw c ne sw, sand 4918-42 ft flowed 680 bbls completed for 340 bbls. T 17n, R 2w, Sec. 24, Slick, Ramsey & Prairie, Jones 1, c se nw, Wilcox 5710-44 ft water abandoning.

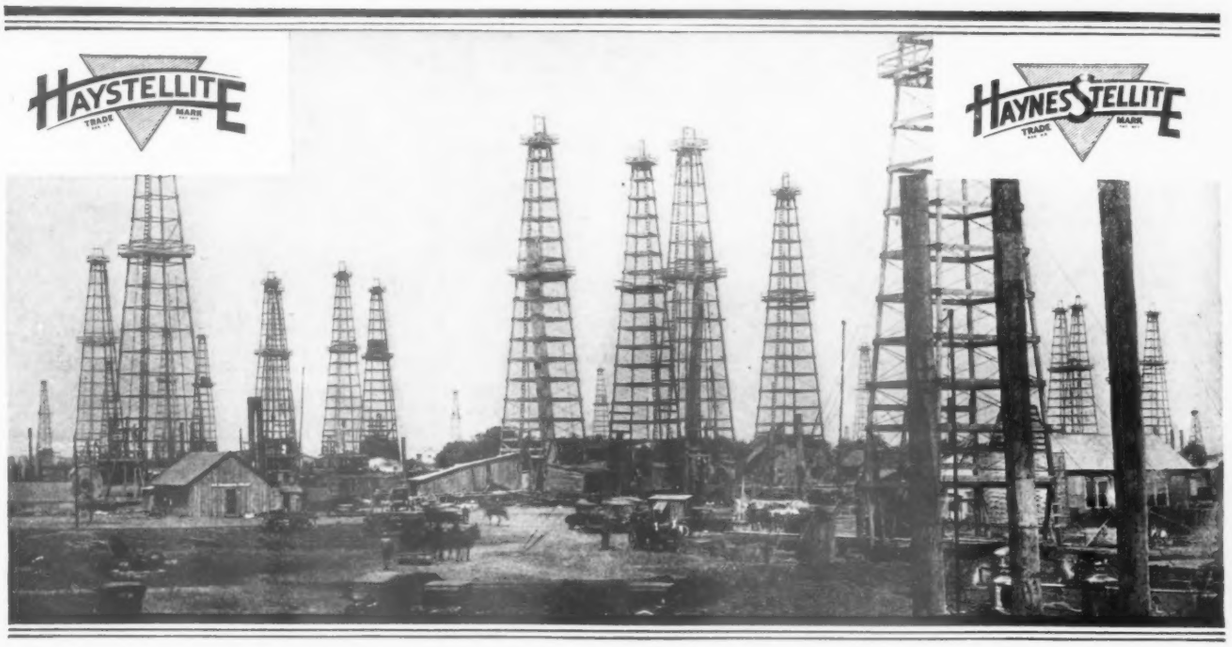
KINGFISHER COUNTY—T 18n, 7w, Sec. 6, Gault-Brown, Boch 1, c nw se (owdd) dr 7430 ft. T 15n, R 5w, Sec. 23, Prairie & Slick, Wright 1, c nw sw, td 6890 ft pb 5125 ft. to test Layton.

OSAGE COUNTY—T 28n, R 7e, Sec. 4, L. G. Stanley et al, 1, se c sw, dr 350 ft.

PAWNEE COUNTY—T 2n, R 5e, Sec. 15, Cochran et al, McFadden 1, ne c sw, rig. T 22n, R 3e, Sec. 26, Wentz Oil Corp., Lillie 1, se c sw ne, dr 3839 ft. T 22n, R 5e, Sec. 2, Sherry et al, Milsap 1, se c sw, dr 1485 ft.

LINCOLN COUNTY—T 13n, R 6e, Sec. 8, Atlantic, Beebe 1, sw c ne sw, lcn.

OKFUSKEE COUNTY—T 12n, R 9e, Sec.



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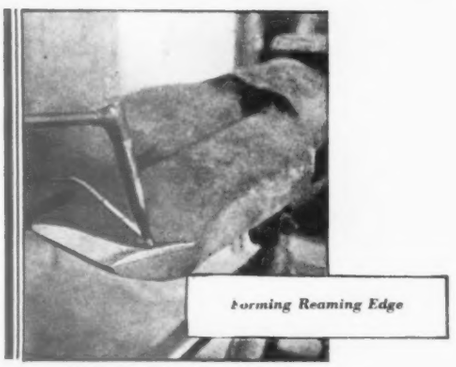

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3, Tulsa Oil Co. et al, Davis 1, se nw sw, hfw 2765-80 ft wx 4073-85 ft water d&a. T 12n, R 9e, Sec. 36, Henry Oil Co., Harjo 1, nw c, Wilcox 4124-57 ft water pb to 3200 ft. T 12n, R 10e, Sec. 3, Shapperd et al, Sheppard 1, se nw sw, sd 3690 ft.

MUSKOGEE COUNTY—T 11n, R 19e, Sec. 21, E. Mills et al, Martin 1, nw c se, sd 1091 ft.

PITTSBURGH COUNTY—T 9n, R 16e, Sec. 32, Pattison et al, McDuff 1, sw c nw se, shot 130 qts 5660 ft dr 5674 ft. T 8n, 14e, Sec. 14, C. D. Cannady, Smith 1, nw c, rig and tools. T 7n, R 13e, Sec. 18, Apex Oil Co., Walker 1, nw c se, ¶2 975-1095 ft sd 1595 ft.

OKLAHOMA COUNTY—T 14n, R 3w, Sec. 32, Mid-Kansas, Messer 1, sw c, shot 90 qts 6690-6760 ft shot 170 qts, flow 425 bbls shut in. T 12n, R 4w, Sec. 17, C. F. Cuniff, Trustee, St. Joseph Orphanage 1, sw ne sw se, sd 6700 ft td.

McCLAIN COUNTY—T 7n, R 2w, Sec. 22, Prairie & Slick, Perkinson 1, sw c nw, dr 5640 ft.

CLEVELAND COUNTY—T 6n, R 1e, Sec. 20, Harris & McNeal, Corbett 1, c sw ne, td 6518 ft slight show oil and water, sd.

OKFUSKEE COUNTY—T 11n, R 8e, Sec. 11, Carter et al, Keys 1, sw ne sw, dr 4153 ft.

POTTAWATOMIE COUNTY—T 10n, R 4e, Sec. 10, Shell, Baker 1, nw c se, lcn.

SEMINOLE COUNTY—T 10n, R 6e, Sec. 19, Bunte et al, Bruner 1, se c nw, rig.

POTTAWATOMIE COUNTY—T 9n, R 4e, Sec. 14, C. F. McGee et al, Eckridbe 1, se c nw, lcn. T 7n, R 3e, Sec. 19, Droppleman & Burke, Fundis 1, se c ne, dr 4720 ft. T 6n, R 5e, Sec. 5, Robinson & Hicks, Crouch 1, nw c sw, swab 200 bbls 4266-72 ft dr 4292.

HUGHES COUNTY—T 6n, R 9e, Sec. 20, Gilcrease Oil Co., Deere 1, ne c sw, dr 1613 ft.

ROGER MILLS COUNTY—T 13n, R 21w, Sec. 10, Richfield O&R, Hiatt 1, se c, rig. T 12n, R 24w, Sec. 23, Bucy & Stone, Williams 1, c sw 2243 ft co.

CANADIAN COUNTY—T 10n, R 6w, Sec. 1, J. V. Bailey, Robinson 1, c ne nw, sd 150 ft.

CADDO COUNTY—T 9n, R 13w, Sec. 18, J. J. Wright & Shell, Boys 1, ne c, lcn.

GREER COUNTY—T 7n, R 22w, Sec. 1, Roy Good et al, Cliffel 1, nw c, sd 1265 ft. T 7n, R 21w, Sec. 23, H. A. French et al, Murphy 1, sw nw se, dr 755 ft.

HARMON COUNTY—T 4n, R 24w, Sec. 17, Harmon-Tex. Oil Co., Headley 1, ne c, sd 2593 ft.

COMANCHE COUNTY—T 3n, R 9w, Sec. 3, Okla. Nat. Gas Co., Doebel 1, ne c sw sw sw, sd 1450 ft.

HUGHES COUNTY—T 5n, R 10e, Sec. 30, Erwin et al, Jones 1, se c ne, td 4515 ft sd. T 5n, R 11e, Sec. 15, J. J. Wright, Roberts 1, se c sw, sd 1645 ft.

COAL COUNTY—T 3n, R 9e, Sec. 26, Blackwell, Gumm 1, nw c, td 5055 ft pb to shoot 3800-4010 ft.

ATOKA COUNTY—T 3s, R 10e, Sec. 18, Brookshire et al, Guinn 1, nw c, show gas 360-72 ft sd 500.

CARTER COUNTY—T 4s, R 2e, Sec. 32, Tex.-Okla. Drlg. Co., Anderson 1, c se ne se, dr by pipe 2500 ft td 2580 ft.

LOVE COUNTY—T 6s, R 3w, Sec. 20 Harry Hobbs, Steele 1, sw c ne ne sw, sd 3130 ft.

BRYAN COUNTY—T 6s, R 7e, Sec. 14, W. A. Johnson, Ussery 1, se c, sd 325 ft. T 6s, R 9e, Sec. 35, C. P. Bush, Commerce Trust Co. 1, ne c, sd 600 ft. T 7s, R 10e, Sec. 8, Bryan Oil Co., Childs 1, ne c se, sw, sd 475 ft.

SOUTHERN CALIFORNIA

ALHAMBRA — Fred Hammer's Huntington Land 1, dr shale and streaks gas sand 1220 ft.

ATHENS—McKeon Oil Co.'s Heights 1, 1-3-14, sd 560 ft.

BELL—Cudahay Community Oil Ass'n.'s No. 1, dr 100 ft.

CORONA—Western Gulf's Abacherli 1, 12-3-8, dr shale 875 ft.

CULVER CITY—Olympic Oil & Realty Co.'s No. 1, co 4750 ft. Taylor Oil Co.'s No. 1, dr shale and hard sand 2112 ft.

FULLERTON — Standard's Bastanchury 1, 21-3-10, dr shale 7177 ft.

HAWTHORNE—C. L. Wood's No. E-1, 10-3-14, rigging up rotary.

HERMOSA — California Ventura Oil Co.'s Sadler 2, 31-3-14, 6¼-in cas cmt 3330 ft. Westwood Pet. Co.'s No. 1, rig. George Wolfe's Hermosa 1, rigging up rotary.

NEWHALL—Consolidated Oil Co.'s Hammond 1, dr gray sand 2322 ft. Southern California Drilling Co.'s Needham 4, 13-3-16, plugging back from 3505 ft.

NEWPORT—Standard's Irvine 1, 26-6-10, dr shale 2929 ft.

PLAYA DEL REY—West Port Pet. Corp.'s No. 1, 27-2-15, dr sand 5155 ft.

POMONA—Lamona Oill Ass'n.'s San Jose 2, dr surface sand 100 ft.

PUENTE—Bardeen Oil Co.'s Barnadette 1, 2-2-10, dr water well. Rio Hondo Pet. Co.'s Rowland 1, 14-2-10, pumping 10 bbls oil, td 3725 ft. C. F. Shannon's No. 1, 3-2-10, pumping mud and water, showing of gas, td 4620 ft.

PUENTE HILLS — El Dorado Oil Co.'s Baird 1, drilling water well.

SAN FERNANDO—San Val Oil Co.'s No. 1, 14-1-16, dr shale 600 ft. Shell's Andrews 1-1, 19-2-15, dr hard sand 5675 ft.

SANTA FE SPRINGS—Union's Orchardale 1-1, 10-3-11, dr shale 6188 ft.

SAN JUAN CAPISTRANO—Okay No. 2's Foster 2, 13-8-8, dr shell 4878 ft.

WILMINGTON—Wilmington Cons. Oil Co.'s No. 1, lcn.

ORANGE COUNTY — Texas' Olive Community 1, 7-4-9, lcn.

NORTHERN CALIFORNIA

KERN COUNTY

BELRIDGE—Associated's No. 1, 21-27-20, new lcn. Belridge Oil Co.'s No. 27-8, 27-27-20, rig; No. 35-48, 35-27-20, rig. General Pet.'s Berry 1, 30-28-21, straightening hole, td 3470 ft. Ohio's Bloemer 1, 36-27-20, dr shale 3155 ft. Richfield's Belridge 1, 22-27-20, dr out cmt, td 5805 ft, will test. Reward Oil Co.'s Associated 4, 34-27-20, dr 1400 ft. Standard's McPhail 1, 36-27-20, dr shale 1040 ft; McPhail 2, 36-27-20, rig. Texas' Martin 1, 22-27-20, dr shale 2220 ft. Union's Belridge 17, 36-27-20, dr shale 200 ft. K. C. Wallace's No. 1, 32-29-21, dr hard brown shale 3900 ft.

BUENA VISTA HILLS—Federal Drilling Co.'s No. 1, 20-31-24, dr sandy shale 4880 ft. Midland Exploration Co.'s No. 1, 34-31-24, rig.

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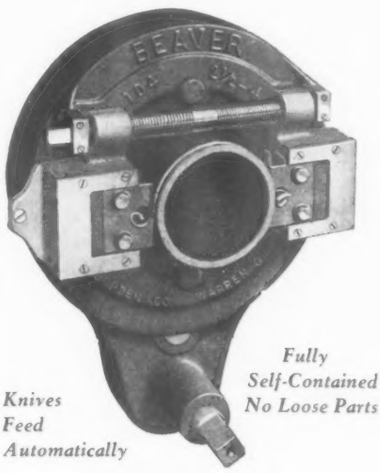

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The use of our own special grade of nickel-semi-steel in the gear case—instead of cast iron, as in the past, is another improvement which means greater strength and reduced repair bills.

The lower end of the pinion rides in a bronze bushing, rigidly supported by the over-all cover plate of the gear housing. This plate is also of nickel semi-steel which provides greater rigidity—better threads and longer life.

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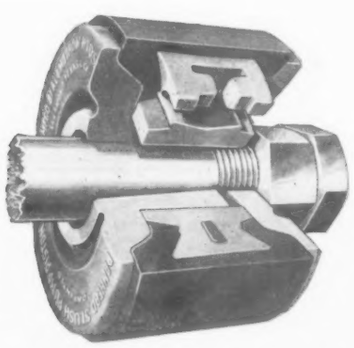
SLUSH PUMP PISTONS



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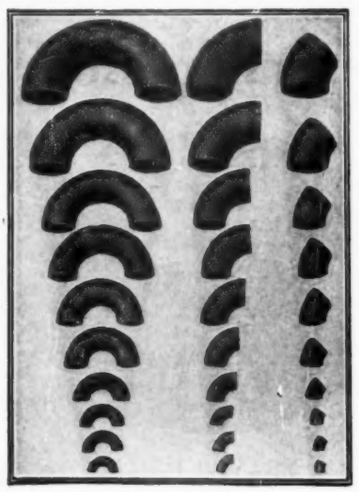

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Salisbury 1A, 7-29-24, dr shale 6075 ft. Superior's KCL-1, 32-29-25, dr sand and clay 555 ft.

DEVIL'S DEN—Standard's Alferitz 1, 14-25-18, dr hard brown shale 1540 ft.

EDISON—Petroleum Securities Co.'s Johnson-Moss 1, 14-29-29, dr shale 3710 ft.

EL TEJON—J. J. Ritchie's No. 1, 33-11-19, will dr out cmt, td 4920 ft.

McKITTRICK — California Oil Producers' Wisecarver 1, 30-30-22, sdtr whipstock 5050 ft, will deepen.

PATTIWAY—H. A. Bardeen's Ramsey 1, 10-10-13, plugging back to test at 3525 ft.

SEMITROPIC—Shell's Williams 1, 17-27-23, coring 8327 ft.

WASCO—Cities Service Pet. Co.'s Core Hole 1, 16-28-24, rigging up.

WEED PATCH—Mohawk Oil Co.'s Wharton 1, 32-30-29, dr shale 4600 ft. Shell's Porter 1, 29-30-29, dr shale 3800 ft; Porter-Day 1, 29-30-29, deepening after flowing 1100 bbls, td 6138 ft.

SANTA BARBARA COUNTY

CAMPBELL'S POINT — Bolsa Chica Oil Corp.'s Augur 191-1, 24-4-9, dr silty shale and gray sand 3840 ft.

GATO RIDGE—Barnsdall's Tegazzini 1, 9-8-32, dr shale 5615 ft.

GOLETA—General Pet.'s More 3, dr brown shale 5615 ft. George W. Johnson's Duncan 1, re-dr 3850 ft, will cmt 9-in cas at 3830 ft.

LOS ALAMOS—N. S. Wilson's No. 1, 2-7-33, co 1665 ft.

NAPLES—J. H. Cochran's No. 1, 7-4-29, co 4635 ft.

ORELLA—General Pet.'s Erburu 8, 32-5-30, dr hard red shale 3506 ft.

POINT CONCEPCION—Standard's Gerber 1, ur 6050 ft, td 6710 ft.

SANTA MARIA—O. C. Field Gasoline Co.'s Bradley 1, 8-9-33, co 5275 ft.

VENTURA COUNTY

HOPPER CANYON—Rio Grande Oil Co.'s Lankershim 1, 13-4-19, co 1828 ft. George H. Hadley's No. 1, 13-4-9, will test at 940 ft.

OJAI—Knudsen-Schmidt Co.'s No. 1, dr surface sand 150 ft.

RINCON — Chanslor-Canfield Midway Oil Co.'s Hobson A-2, 23-3-24, sdtr iron 7474 ft, td 7521 ft.

SANTA PAULA—George C. Thompson's No. 1, 15-4-21, dr hard sand 2600 ft.

SANTA MONICA MOUNTAINS—Olympic Corp.'s Calabasas 1, 18-1-17, fsh for drill pipe, td 5670 ft.

SESPE—Merchants Pet. Co.'s Cochran 1, 1-4-20, rigged up to sp. Superior's Kirtlan 1, 15-4-21, dr hard shale 3085 ft.

VENTURA—Prairie Oil & Gas Sexton 1, 30-3-22, 9-in cas cmt 7327 ft, td 7518 ft, will make test.

MISCELLANEOUS

FRESNO COUNTY—Carruthers Oil & Land Co.'s Barritt 1, 4-17-20, drilling water well for supply. Associated's Jacalitos-Mitchell 1, dr shale 3220 ft.

KINGS COUNTY—L. W. Seymour's No. 1, 10-23-16, fsh 900 ft. Thos. H. Purman's Avenal 1, 36-23-17, dr shale 315 ft. Murphy Oil Co.'s Brennan 1, 20-23-20, dr blue shale and streaks sand 1616 ft.

MENDOCINO COUNTY—Twin State Oil Co.'s Soldani 1, 14-12-17, dr shale 5215 ft.

MONTEREY COUNTY — F. A. Brown's Taylor 1, 15-23-14, sr 800 ft. Pacific Inland Oil Co.'s 1A, 19-23-15, dr hard sand and streaks shale 5828 ft. Standard's Piedmont 1, 23-22-7, dr hard sand 5829 ft.

SAN LUIS OBISPO COUNTY—Miracle Oil Co.'s No. 1, 17-10-25, dr shale 165 ft. C. Shockley's Carpenter 1, 13-23-13, dr shale 1600 ft. Continental's Hellman 1, 26-15-11, dr shale 2000 ft. Pismo Dome Oil Co.'s Pricco 2-A, 5-31-13, testing 2996 ft.

TULARE COUNTY—Big Four Drilling Co.'s No. 1, 29-23-27, sdtr cas, td 4330 ft. Ducor Pet. Co.'s Zimmerman 1, 14-24-27, sdtr iron 2180 ft. Enterprise Oil Co.'s Dennis 1, 29-23-28, fsh for drill pipe 700 ft. Western Oil & Exploration Co.'s Gardiner 1, 35-22-27, pumping 22 bbls oil and 250 bbls water, td 1022 ft. Inland Valley Oil Co.'s Smith-Rea 1, 24-17-24, sr 2008 ft, td 2060 ft.

YOLO COUNTY—George F. Getty's Guinda 1, 23-12-3, sd 2007 ft.

General Land Office Maps of all Texas Counties

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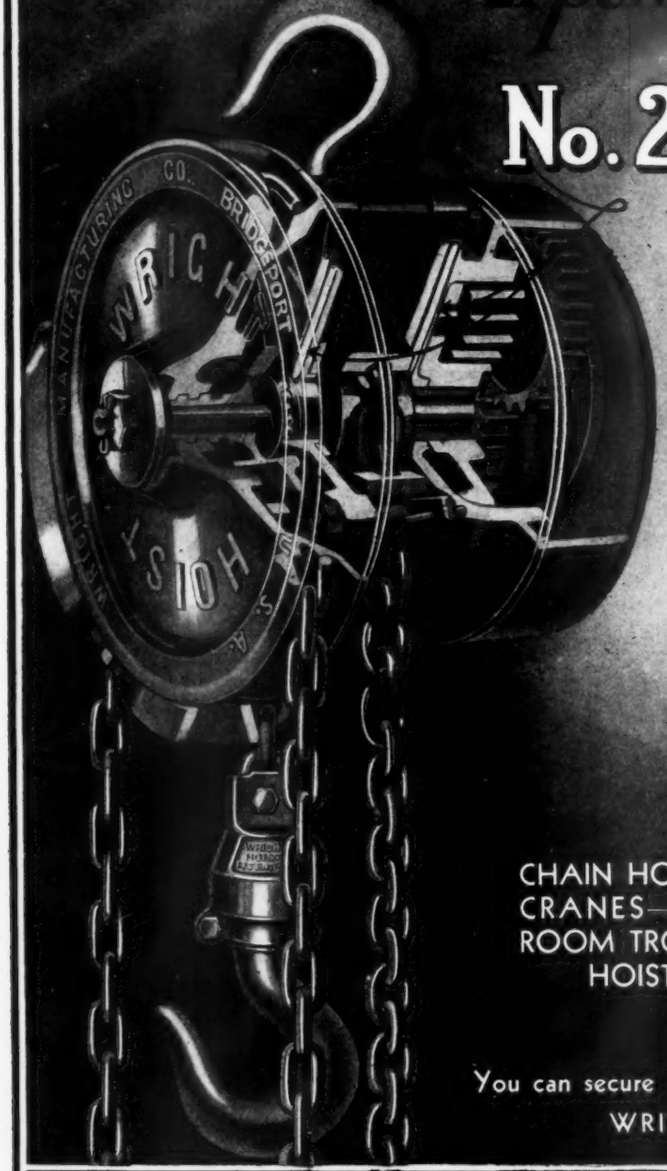

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—oil tubes are covered with cap with spring-lid.

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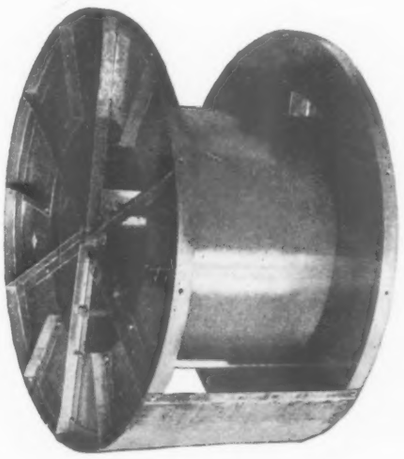


Steel Reels

TRUSCON STEEL COMPANY

Truscon Steel Company, pressed steel division, Cleveland, has announced the development of steel reels of the approximate weight of wood reels, to eliminate shrinking, swelling, splintering and rotting. Inasmuch as the construction of reels has shown little material change since the early date of the wire and cable industry, Truscon Steel Company announces its development as an innovation.

A series of comparative drop tests have been made to demonstrate that these steel reels will remain intact, preventing loosening up in general, wobbling heads, weaving drums and loosened nails.

Construction of the new steel reel has been made with a view to allowing an easy inspection, marking, labeling and spray painting. They may be stored either indoors or outdoors without changing weight due to weather conditions. Steel or wood lagging will be supplied with these reels.

Detailed information on the steel reels is available upon request to Truscon Steel Company.

Steam Turbine

GENERAL ELECTRIC COMPANY

General Electric Company, Schenectady, New York, announces a new small mechanical-drive noncondensing steam turbine for driving centrifugal pumps, fans and similar industrial equipment operating in general at speeds between 1750 and 3600 r.p.m. It was shown for the first time at the Seventh International Petroleum Exposition at Tulsa.

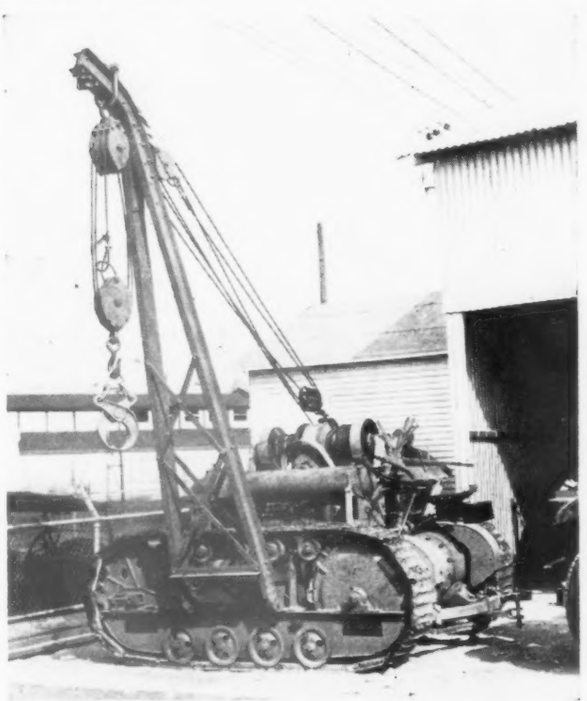
The new turbine is built only as a single-stage machine and has two rows of revolving buckets. It follows the design of the standard line of G. E. mechanical-drive turbines. The wheel casing is split horizontally for easy access to the internal parts, and the steam and exhaust pipes are connected to the lower half of the machine. A new centrifugal governor with weights pivoting on knife edges operates with very little friction and provides proper speed regulation. An independent emergency governor is included. The new turbine bears the type designation D-57.

Crawling Pipe Boom

TRACKSON COMPANY

Trackson Company, 1320 South First Street, Milwaukee, announces the new Berg boom, a unit operated by the Trackson-Fordson crawler tractor to handle pipe on pipe line projects. The combination hook-up is illustrated here.

The Berg boom is manufactured by Resistcor Engineering Corporation, Tulsa, following development by Matt Berg of Cushing Motor Company, Cushing, Oklahoma. The boom moves up and down to pick up or lower pipe. It is mounted directly on the crawler frames, and the hoisting drums are so mounted as to help counterbalance the weight of the boom. The lever controls of the hoisting mechanism are close to the driver's right hand, and obstructing framework to interfere with the driver's vision has been eliminated in the design.



Trackson Crawler Boom

This boom unit has been added to the Trackson crawler to make a complete job of clearing right-of-way, backfilling ditches, hauling machinery and pipe, skidding, stringing, lifting, cold bending and lowering in the pipe.

Trackson Company will furnish detailed description of this combination upon request to the home office.

All-Metal Variable Speed Transmission

LINK-BELT COMPANY

Link-Belt Company, 910 South Michigan Avenue, Chicago, announces the new P. I. V. gear (positive, infinitely variable) an all metal variable speed transmission.

Basically, this new speed change unit consists of two

NEW EQUIPMENT FOR THE FIELD

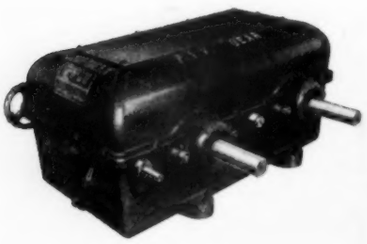


FIGURE 1
Link-Belt P. I. V. Gear, illustrating neatness, compactness of design; its safety due to all parts being fully enclosed. It is self-lubricated.

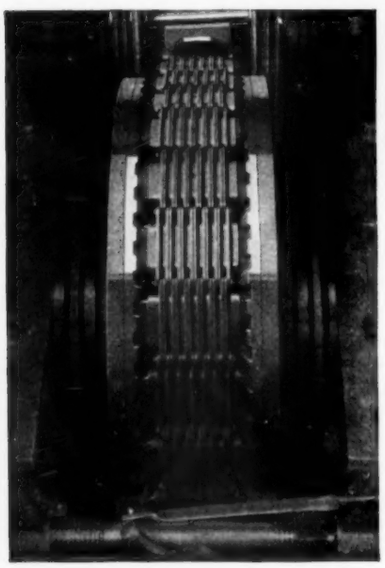


FIGURE 2
Illustrating the tooth formation of the P. I. V. Chain on the maximum diameter of a wheel.

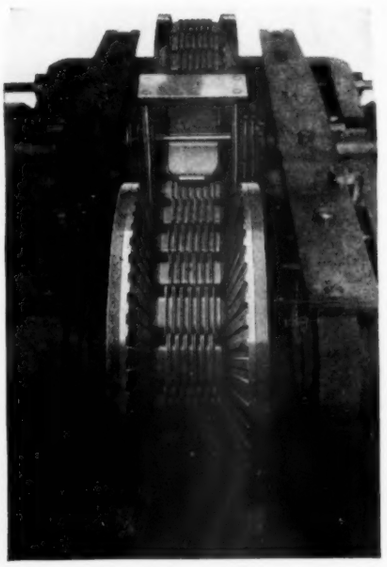


FIGURE 3
Illustrating the tooth formation of the P. I. V. Chain on the minimum diameter of a wheel.

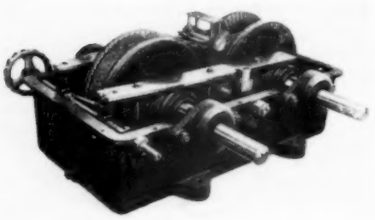


FIGURE 4
Link-Belt P. I. V. (Positive Infinitely Variable) Gear, showing assembly of mechanism. Same as Figure 1, with cover removed.

pairs of wheels of the opposed conical disc type, between which a unique chain transmits power. The effective diameters of each pair of wheels can be altered under load to change the speed ratio, without steps and without dependence upon friction. On changing speed, the self-pitching chain rises in one set of wheels and descends in the other, so that while the input shaft connected to a motor or other source of power turns at constant speed, the output shaft is brought to the desired r.p.m.

The chain used in the P. I. V. gear is made up of a series of steel leaves or links with joints consisting of hardened steel pins turning in segmental bushings. There are no teeth on the inner surface of this chain. Instead, what may be called teeth are made up of packs of hardened steel laminations or slats which extend through slots in the links at right angles to them, and project about one-eighth of an inch at each side of the chain. The individual containers which hold the packs or slats are secured in the openings of the links, but, within each such container, the slats are free to slide from side to side individually with relation to each other and adjust themselves to engagement with the radial teeth of the discs, over substantially the full range of diameters. The angle of the slat ends, 30 degrees, is the same as that of the conical faces of the wheels.

The teeth of the discs widen from the center outward toward the circumference, but are of uniform depth. They are so staggered relatively on each pair of wheels that the slats move back and forth into the teeth to mesh correctly as the chain comes into contact with the wheels. At each engagement of the chain and wheels, the slats are regrouped within their separate containers, but do not slide nor move under working pull. Their movement in engaging with the wheels is complete before the load is applied.

All elements of the P. I. V. gear are built into and protected by a compact oil-tight housing, and are automatically splash lubricated. The hardened steel wheel faces are mounted on cast iron hubs backed by ball thrust bearings, and move axially on the shafts, which in turn are mounted in radial ball bearings. The movement of the pairs of wheels together or apart, in order to increase or decrease their effective pitch diameters, is controlled by a pair of pivoted levers operated through a hand control shaft with right and left-hand screw motion. Initial chain tension is provided for by an external adjustment screw, and correct operating tension is maintained at all ratio settings, by two hardened shoes which ride lightly on both upper and lower strands of the chain, under constant spring pressure. A speed indicator permits ready check-up on operating speed settings.

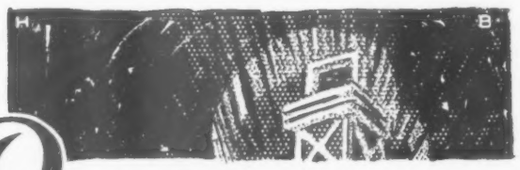
The P. I. V. gear is made for the present, in five sizes from one to 10 horsepower capacity, providing speed change ratios up to a maximum of six to one. It has been tested throughout the past year by continuous operation.

A book, number 1274, illustrating and describing the P. I. V. gear, will be sent gratis upon request to Link-Belt Company, Philadelphia, Indianapolis or Chicago.

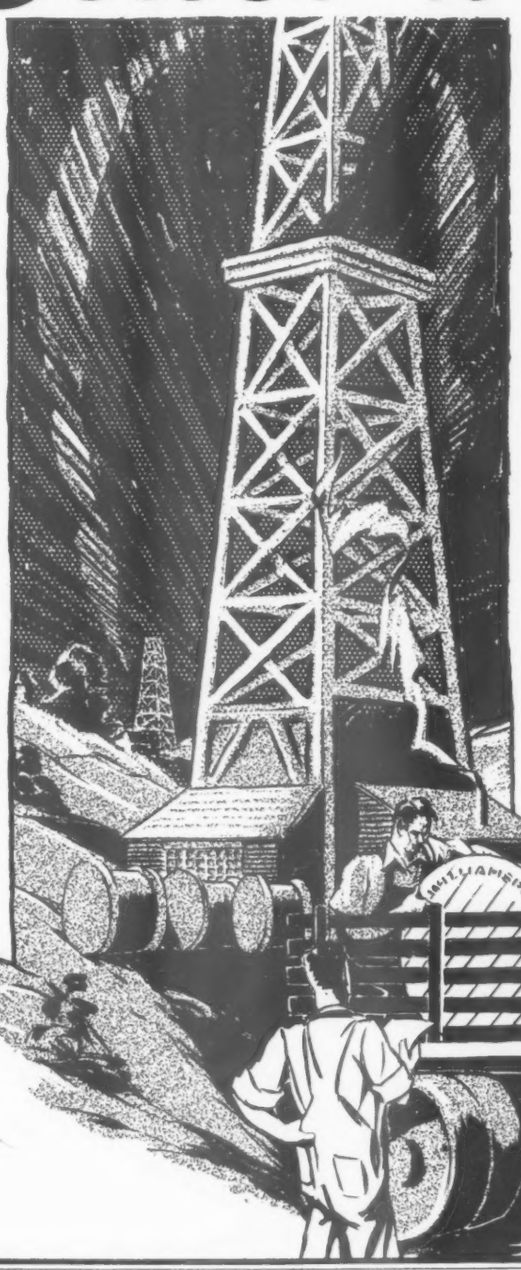
Victor Welding Equipment Company, Pacific Coast manufacturers of acetylene equipment and welding supplies, announce the opening of a direct factory branch at Los Angeles, located at 2032 South Santa Fe Avenue.

The Los Angeles office will carry a complete line of acetylene and electric welding equipment to include hard facing materials, diamond substitutes and general welding supplies. The repair department will be particularly complete.

The personnel of the Los Angeles office will include Roy Norton, A. G. Thorsell and L. H. Bess. These men are well known in the welding industry and will cover the field from the sales and service angle. J. C. Blake, former sales manager of the Stoody Company, is in charge of the establishment of the Los Angeles office of the Victor Company.



Better wire lines



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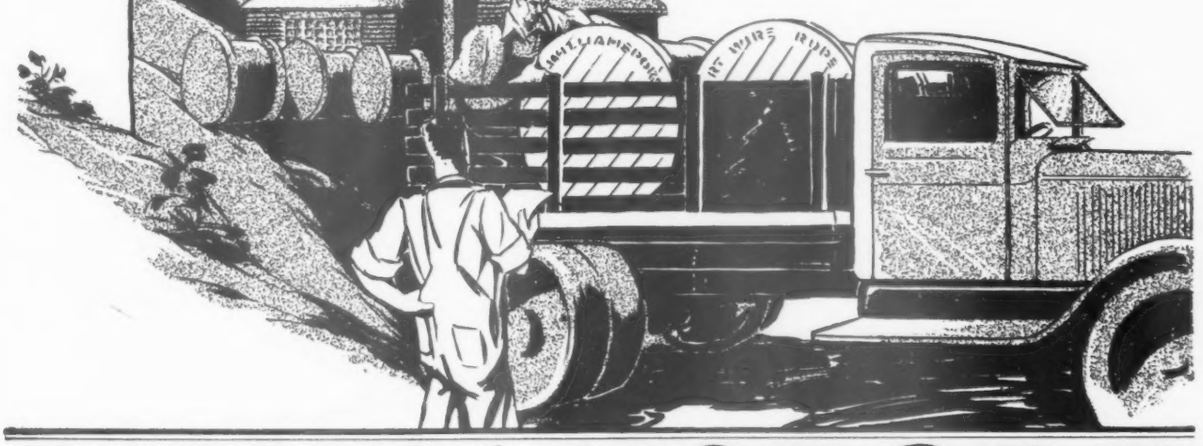


WILLIAMSPORT

Manufacturers and Supply Dealers Notes

Crum-Brainard Company, Ltd., Whittier, California, recently announced its entrance into the oil tool sales and manufacturing field. This concern is headed by R. R. Crum and F. W. Brainard.

They will carry sales on the Crum-Brainard cathead and the Crum-Brainard rotary booster brake. Along with these two tools they will carry both sales and service on the Crum-Brainard core barrels and core bits.

The officers and directors of Crum-Brainard Company, Ltd., are: R. R. Crum, president and general manager; F. W. Brainard, vice president; E. A. Perkins, secretary and treasurer and George E. Shetlin, sales manager.

R. R. Crum

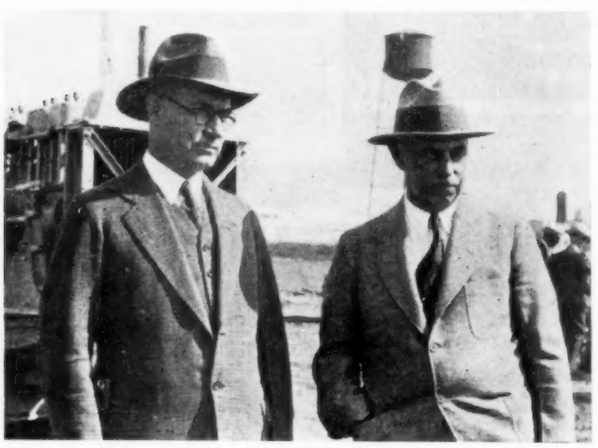
F. W. Brainard

Crum's experience in the oil industry covers 25 years, 12 of these being spent with the Standard Oil Company as shop superintendent and four years as vice president and general manager of the H. C. Smith Manufacturing Company. Previous to this time he worked with Union Tool Company at Los Angeles and followed this with nine years of experience with other oil tool companies, during which he was with the Burma Oil Company in Burma.

Brainard's experience in the oil tool industry also amounts to more than 25 years, during which he was in both the Mid-Continent and the California fields. For the past four years he has been plant superintendent of the H. C. Smith Manufacturing Company. For six years previous to this he was plant superintendent of the Henderson Oil Company of Graham, Texas.

Perkins was for eight years in charge of field offices for Mohawk Oil Company and five years as credit manager for H. C. Smith Manufacturing Company.

Shetlin was for five years in charge of field sales of the western division of Hughes Tool Company, two years as sales manager for the D. & B. Pump and Supply Company, and three years as salesman and field man for the Rotary Oil Well Cementing Company and the Perkins Oil Well Cementing Company.



A. E. Loder

C. A. Spears

Caterpillar Tractor Company, following the transferring of the general sales office from San Leandro, California, to Peoria, Illinois, announces the following promotions in the sales department: J. J. Crumbaugh, manager of New York office, has been transferred to the export department and assigned to work abroad; Arthur C. Jenvey, who has been assistant sales manager at Peoria, has been transferred to New York as manager of the New York City office, succeeding Crumbaugh; W. H. Goodwin, who has been assistant sales manager in charge of the Denver sales division, has been transferred to Peoria as general assistant sales manager to E. R. Galvin, sales manager; A. E. Loder, general supervisor of construction and governmental sales has been transferred to the newly formed experimental and development division, which has headquarters at San Leandro, California, Loder will be the Eastern representative of this division; C. A. Spears, supervisor of construction and governmental sales at San Leandro, has been transferred to Peoria, succeeding Loder; L. G. Lawrence, district representative in Ohio, has been transferred to the western division as district representative at Los Angeles; Sam M. Miller, recently associated with Caterpillar Tractor Company, has been assigned to the territory as district representative, formerly covered by Lawrence; C. D. Price, special representative of the sales department in Peoria, has been transferred to the western division as district representative out of San Francisco; R. L. Wallingford, former district representative in the Amarillo territory has been assigned to special work; P. R. Ferrell has been assigned as district representative in the territory formerly covered by Wallingford; F. M. Stewart, district representative at Great Falls, Montana, has been assigned to special work; H. G. McClurg has been appointed district representative in the territory recently covered by Stewart; A. H. Snow, former district representative in the Grand Forks territory, has been transferred to the export department and will eventually be assigned to work abroad; T. V. Marks, formerly on special work, has been appointed district representative to succeed Snow; L. W. Werner, recently associated with Caterpillar Tractor Company, has been assigned to the Glendive, Montana territory, and E. I. Stouffer will be assistant sales manager in charge of the eastern portion of the eastern sales division.

Mine Safety Appliances Company, Pittsburgh, has issued a neat catalog, number FA-2, on first aid equipment. It lists the lines of first aid materials handled by this company and fully illustrates the uses of such materials in time of need. For example, methods of artificial respiration are illustrated and the care of burns, lacerations, etc., are outlined in explanation and illustrated in the catalog. A copy of this catalog will be forwarded upon request to the company.

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SQUEAKS FROM THE BULL WHEEL

The Toronto lawyer who, in his will, left a half million dollars to the Canadian mother who has the most children by 1936, started a race.

The professor's wife was speaking. "I must say, James," she said, "that you do not look so well dressed as you used to."

"That's strange," said the professor thoughtfully, "for they are the same clothes."

"How shall I account for the $10,000 our cashier skipped out with last week?" asked the head bookkeeper of the bank president.

"Oh, charge it to running expenses," ordered the president.

It was the young lawyer's first case, and he was bubbling over with pride and enthusiasm as he stood in court.

"Now," said he, addressing the defendant, "you say you came to town to look for work? I put it to you, there was another, a stronger motive that brought you all this distance."

"Well," hesitated the defendant, "there was—"

"Ah!" cried the lawyer, triumphantly. "And what was it?"

"A locomotive."

"Roy E. Leigh, Associated Editor, in the Persian desert on trip around world. On this trip Mr. Leigh gathered the data to be used in this world review issue"

The circulation manager of THE OIL WEEKLY a short time ago sent out a letter which had in it the picture above of Roy E. Leigh, associate editor of THE OIL WEEKLY, with the underline accompanying.

Not long after we received a letter from an oil man reading like this:

"I have seen with much interest the picture of Mr. Leigh on his trip around the world on a jackass. Did he ride the jackass all the way? Why don't you buy him a Ford?"

The editor would like to make this explanation.

Mr. Leigh left New York on a ship around the first of last January, and he got to Mesopotamia, where the picture was taken, in September. Use your own judgment on what he rode after he got off the ship.

The wife had been put on the budget plan. At the end of each month she and her husband would go over the accounts together. Every once in a while he would find an item, "L. O. K., $3," and a little further on, "L. O. K., $6."

Finally he said, "My dear, what is this —'L. O. K.'?"

"Lord Only Knows," she replied.

The reporter came idly into the office. "Well," said the editor, "what did our eminent statesman have to say?"

"Nothing."

"Well, keep it down to a column."

"She's a very nicely reared girl, don't you think?"

"She don't look so bad from in front, either."

"My wife says that if I don't give up golf she will leave me."

"I say, that is hard luck."

"Ye'es. I'll miss her, no doubt."

Pat Murphy attended a safety meeting. The boys had been given some printed instruction and the safety man wanted to check on results.

"Pat," he said, "Can you give me six good reasons for safety?"

Now Pat wasn't up on his reading but he was rather quick with his comeback.

"Sure," he replied, "the four little Murphys, me wife and meself!"

Smart Man (boarding car): "Well, Noah, is the ark full?"

Conductor: "Nope. Only one jackass so far. Come on in."

Judge: "It will go hard with you this time, Sambo; you look as if you have been drinking again."

Sambo—"Yes, sah, Judge, dat sho' am pow-ful stuff Ah had. It was dat dere chicken hootch."

"Chicken hootch! Why I have never heard of that before."

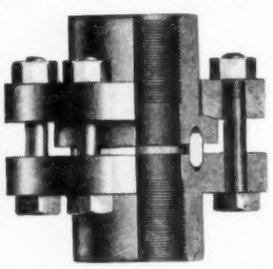
"Yes, sah, Judge, chicken hootch. One drink and you lay."

To any responsible oil man

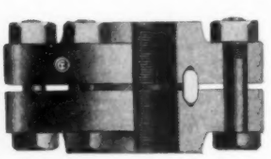
30 days FREE TRIAL

of either of these OCT forged steel flange unions

"Not a leak in a CARLOAD"



OCT High-Hub Type Flange Union. Note two 60 degree angles on each end of bronze ring, giving double seal. One loose flange for easy bolting



OCT Low-Hub Type Flange Union. Has same bronze ring as in high-hub type. No gaskets to blow out or leak. Rings renewable

Nine men out of ten who try this OCT Forged Steel Flange Union standardize on it. Roughnecks, and refinery and pipe line mechanics say it's the best ever. Being soft, its renewable bronze ring makes up tight even with dirt or grit in the seat. Made in high-hub and low-hub types, in all standard sizes, for pressures up to 10,000 pounds test.

Naturally, we want every responsible oil man to try an OCT Flange Union. Send for one of the size you want, and put it on your toughest job. Punish it every way you can. After 30 days, either send us an order for the flange, or return it charges collect. We pay all transportation charges both ways—you can't lose.

Specify type of flange wanted, also size, and thread desired. High-hub type has one loose flange, making it easy to put bolts in holes.

Try one OCT Flange Union, and you'll admit it's what you've been looking for. It will outlast and outperform any flange you ever used!

Please use the coupon below.

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924 Adelle Street, Houston, Texas.

In accordance with your trial offer, you may send me one OCT Flange Union for 30 days trial. If I decide to keep it I will send purchase order. Otherwise I will return it within 30 days after receiving and owe you nothing.

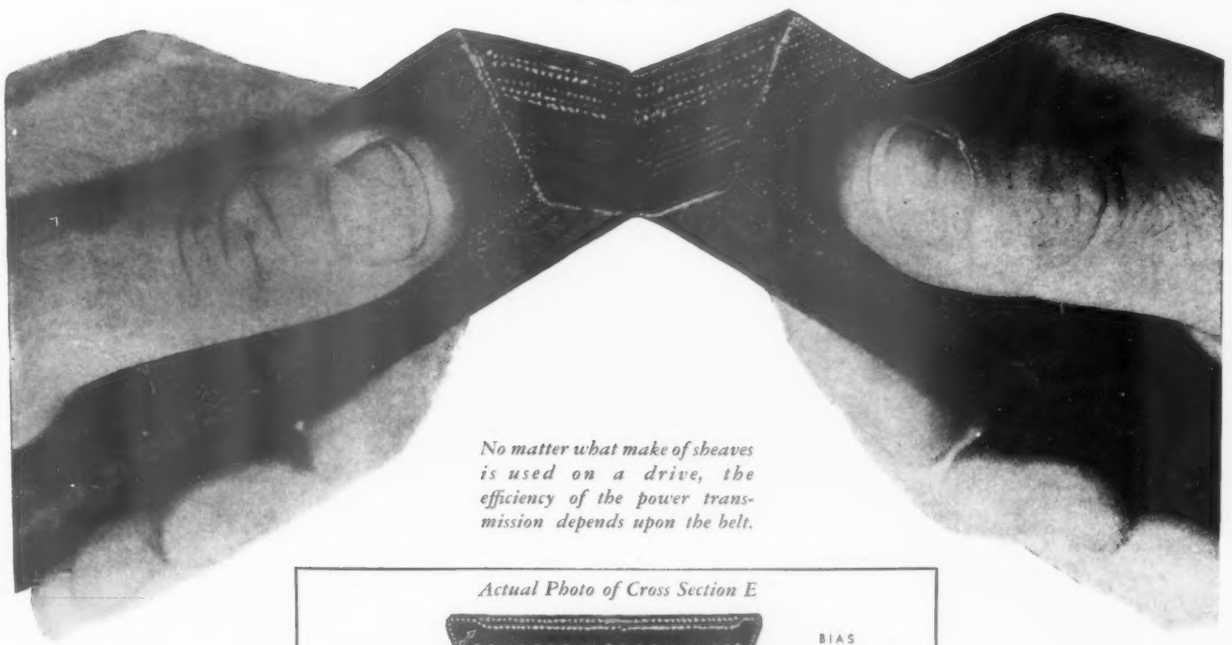
Name ..... Company .....

Position ..... Street .....

City ..... State .....

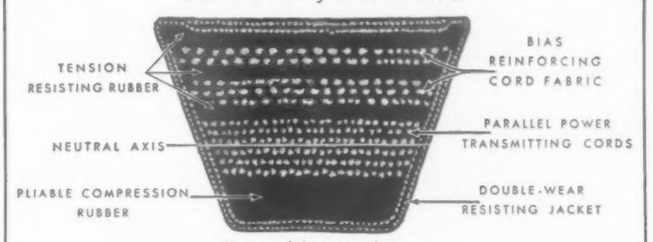
Type of Flange..... Size .....Thread.....

A V-Belt Drive is no Better than the Belt...



No matter what make of sheaves is used on a drive, the efficiency of the power transmission depends upon the belt.

Actual Photo of Cross Section E



Patented Construction

Here is an actual demonstration of the scientific design and construction that bring about Gilmer V-Belt superiority. Every detail is there for a specific purpose — Gilmer does not manufacture a drive. The very fact that the huge Gilmer V-Belt business is built on replacements of other belts speaks for itself.

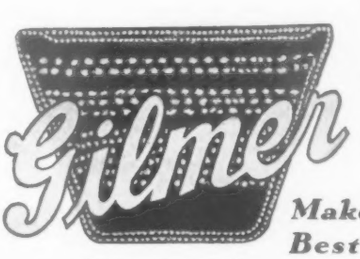
When a V-Belt bends around a sheave the upper part is in tension, the lower in compression. At some point — *the neutral* axis — neither force is present. At this point, in every Gilmer V-Belt, will be found superimposed layers of unusually strong cords — *a feature originated by Gilmer engineers.* These cords transmit the load without stretching and without setting up internal friction.

Above and below these cords is tough wear-resisting rubber. The upper and tougher rubber is compounded for repeated bendings without deterioration, while the lower and more pliable is compounded to resist compression.

On large Gilmer V-Belts, bias reinforcement cords are added to provide lateral stiffening against buckling. The cords and rubber layers are surrounded by two outer-jackets of rubber impregnated, wear-resisting duck, which excludes foreign matter — The entire belt is vulcanized into one solid elastic mass that possesses maximum stamina and strength.

Since all Gilmer V-Belts are made in accurate metal molds, their dimensions and angles are invariably correct. And — because of their design and construction they *will not twist or buckle in the grooves.*

Gilmer V-Belts have earned an enviable reputation for PERFORMANCE — they have proved themselves in industry after industry — When you are offered Gilmer V-Belts you can be sure that one all-important problem in power transmission is solved — "Belts by Gilmer" means efficiency – plus. L. H. Gilmer Co., Keystone & Cottman Streets, Tacony, Philadelphia, Penna.



Makers of the World's Best-Known V-Belts

Patented Construction

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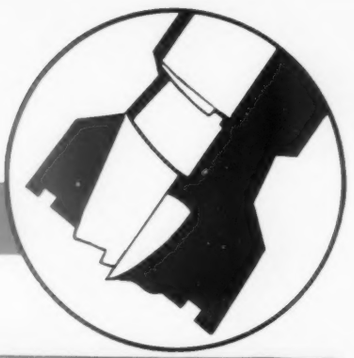
Features That Tell in Better Performance



Serrated Cutter Blades

— and —

Drop-Forged Alloy Steel Construction (Type "C") and Heavily Set with Diamond-Sub Metal (Both Types "B" & "C")

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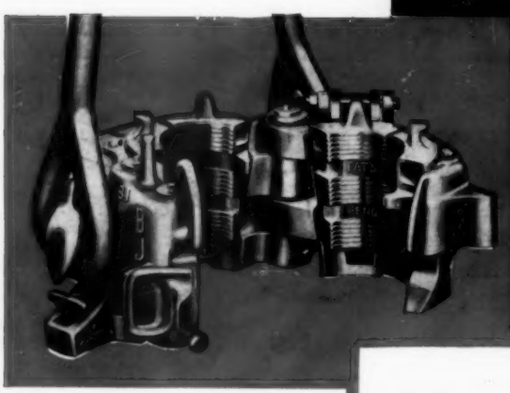
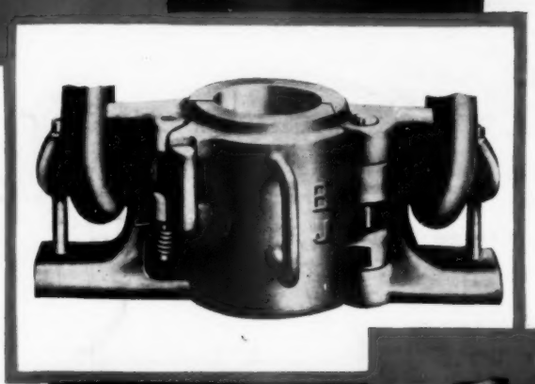
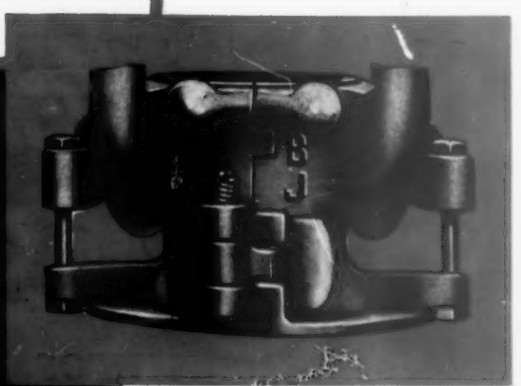


BJ Side Door Slip-Grip Casing Elevator with BJ Weldless Links



BJ Side Door Elevator built in Extra-Heavy, Double-Extra-Heavy and Triple-Extra-Heavy Types.



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